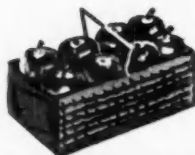
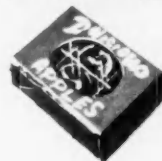
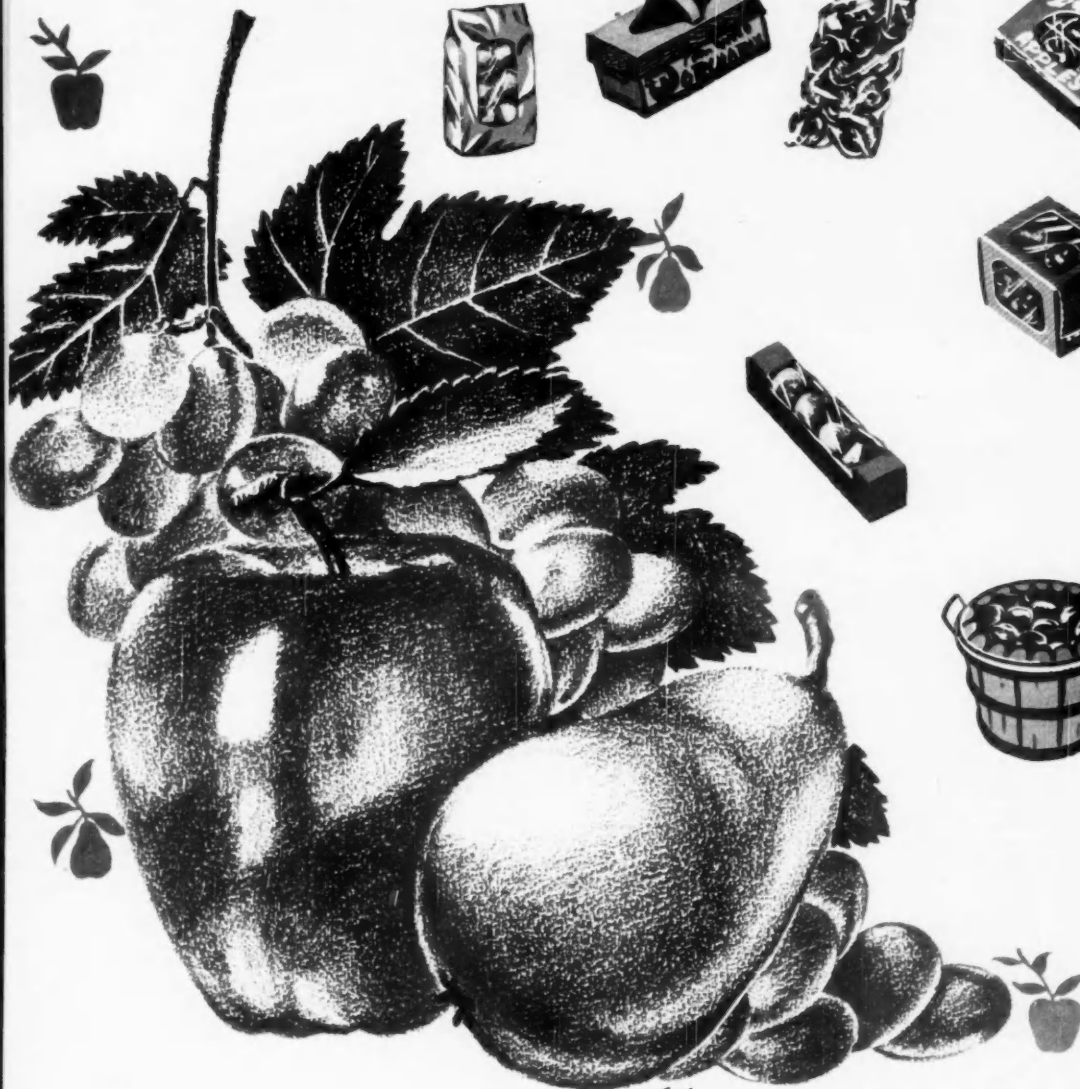


AUGUST

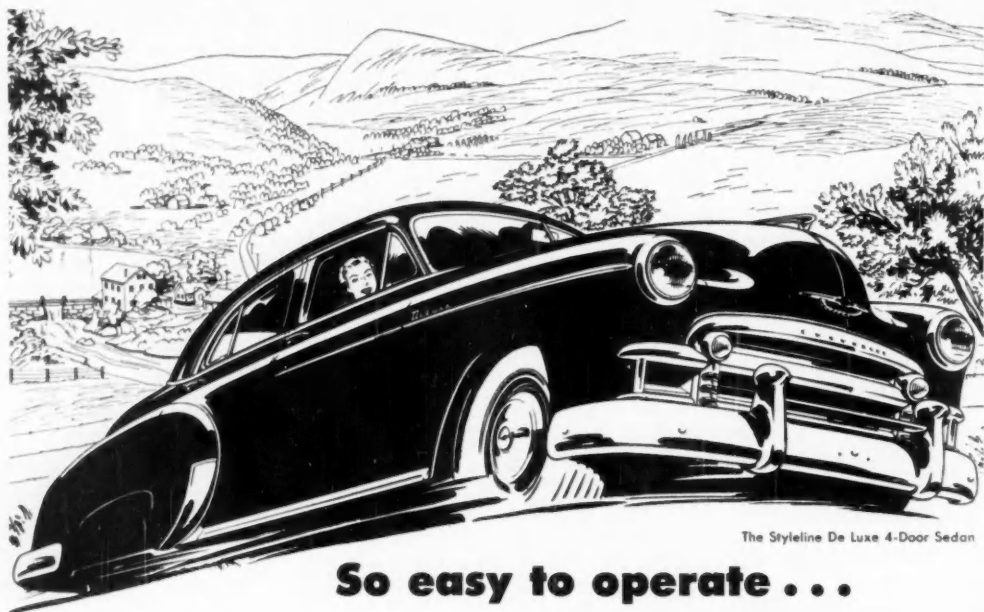
1950



# American FRUIT GROWER



que  
**Packaging**



The Styleline De Luxe 4-Door Sedan

## So easy to operate . . . so economical to own!

You get a thrill of pleasure every time you see the sleek good looks of your Chevrolet! It's a thrill you'll enjoy for years, too, for Chevrolet has the kind of styling that lasts. Fourteen smart Styleline and Fleetline body types are offered, in a wide variety of sparkling color combinations.



You see where you're going and you like the way you go in Chevrolet! The wide curved windshield and generous window area give you vision that's tops for sight-seeing . . . taps for safety. You're free to enjoy the luxury of "five-foot seats" . . . that rich Fisher Body interior.



Examine all of Chevrolet's big-car features. They look expensive. Then examine Chevrolet's prices—and what a pleasant surprise to learn it's the lowest priced line of all! That's why Chevrolet is America's No. 1 favorite . . . why you'll be better off in every way when you make Chevrolet your choice.



Grades and rutted roads a problem in your area? Chevrolet offers you two practical, thrifty solutions—the new 105-h.p. Valve-in-Head engine with Powerglide automatic transmission,\* or the standard Valve-in-Head engine with Synchro-Mesh transmission. They're both equal to any road.



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WITH **POWERglide**  
AUTOMATIC TRANSMISSION\*

Get ready to enjoy the simplest, smoothest driving in the low-price field when you step into a Chevrolet with Powerglide Automatic Transmission.\*

For Powerglide takes most of the work of driving completely out of your hands. All you do is set the lever in "DRIVE" position, press on the accelerator—and go! There's no clutch pedal . . . no gearshifting to bother you. There's just a smooth flow of power from the big 105-h.p. Valve-in-Head Engine that carries you at any speed, over any road, without lag, drag or roughness.

Yours to enjoy, too, are all the other big-car advantages that Chevrolet offers . . . all the traditional features for comfort, safety and economy that Chevrolet alone in its price class brings you. So, see your Chevrolet dealer today. See for yourself why the smart and spirited Chevrolet is indeed the ideal farm car!

\*Combination of Powerglide Automatic Transmission and 105-h.p. engine optional on De Luxe models at extra cost.

CHEVROLET MOTOR DIVISION, General Motors Corporation,  
DETROIT 2, MICHIGAN

## FIRST..and Finest ...at Lowest Cost!

# Irrigation News

WEATHER:

Make your own!

FROM ALUMINUM COMPANY OF AMERICA



VOL. 1 NO. 5

FRUIT EDITION • AUGUST, 1950

## SWITCHES TO SPRINKLERS, GETS 69% MORE GRAPES WITH 46% LESS WATER

**San Jose, California**—In the Evergreen District southeast of here, the receding water table has forced many growers to find more efficient ways to irrigate. Wells have been deepened, pumps lowered. But still the rate of flow is often too low for the basin and furrow methods.

Like several of his neighbors, grape-grower G. Mancuso tackled his water problem by installing a portable sprinkler system in 1948. He had been irrigating his 47 acres of old, established vines by the furrow method, with a flow of 130 gpm. Rolling slopes make efficient water application difficult. When his well capacity dropped to 70 gpm, furrow irrigation was out of the question. So Mancuso switched to sprinklers.

Now, after two years of sprinkler irrigation, he says his grape production has increased from 130 tons to 220 tons. He credits the entire increase to better irrigation, since other operations have not changed.

**Fischer cuts costs \$8.50 per acre**

Over in the Cupertino area west of San Jose, Earl Fischer set out a new planting in 1946, including 64 acres of apricots and 12 acres of plums. After watering trees by furrows for two seasons, he found his well capacity had dropped from 425 gpm to 260 gpm. So Fischer turned to portable sprinkler irrigation.

He's well-pleased with results over the past two years. With sprinkling, his costs for cultivation (which included furrowing) have dropped from \$8.00 to \$2.40 per acre; and irrigation labor decreased from \$4.10 to \$1.20 per acre—a total saving of \$8.50 per acre.

## Sprinklings



California alone has an estimated 400,000 acres under sprinkler irrigation.

The marking "ALCOA 63S-T6" on irrigation pipe means it is made of a tough aluminum alloy, tempered to take rough treatment.

Flexible couplings let aluminum pipe lines conform to sloping or rolling ground.

### DID YOU GET THIS FREE BOOK?



Thousands of farmers all over the country have sent for this useful 32-page Alcoa book on portable sprinkler irrigation. Be sure to get your copy! It's full of information on equipment, costs, installation. Tells how farmers have used irrigation to improve crops, make more money. Mail the coupon today!



Portable sprinkler irrigation at work in a western vineyard.

### Farmers Find Irrigation Help Right at Home

Like most farming methods, portable sprinkler irrigation is most successful when systems are planned to fit local conditions. That's why farmers find it pays to "talk it over" with their county agent or a reputable supplier of irrigation equipment before investing in a sprinkler system. These men know from experience how to make irrigation pay maximum profits.

If you do not know of an irrigation equipment supplier nearby, write to us at address below. We'll gladly suggest firms to contact.

### Moisture Meter Tells How Much to Irrigate

Developed by Dr. G. J. Bouyoucos of the Michigan Experiment Station, East Lansing, Michigan, a simple battery-operated meter now offers farmers a quick, practical way to measure moisture content of soils. It helps to prevent over-irrigating or under-irrigating.

Readings in percentage of available moisture are obtained by connecting the meter to small plaster blocks buried in the soil. When the reading falls below 50%, it's time to irrigate. The meter is manufactured by John Hewitt, 4916 S. Cedar St., Lansing, Michigan.

### 4-inch Alcoa Pipe Weighs Less than a Pound per Foot

According to a California irrigation specialist, aluminum pipe "really revolutionized" sprinkler irrigation by cutting the pipe-moving job down to manageable size.

Alcoa aluminum irrigation pipe is very light in weight. It is easy for one man to shift two or three 20-foot sections of 4" Alcoa pipe at a time. Whether the farm is large or small, the saving in time and effort from using aluminum pipe cuts labor costs, makes irrigation more profitable. Alcoa irrigation pipe is available in sizes from 2" to 8" for a wide range of working pressures.

PICK THE

PIPE

THAT'S

PORTABLE!



LIGHTWEIGHT • LONG-LASTING  
**ALCOA** ALUMINUM  
IRRIGATION PIPE

ALUMINUM COMPANY OF AMERICA,  
2176H Gulf Building, Pittsburgh 19, Pa.

Please send me "Portable Sprinkler Pipelines to Profit".

Name

Address

City

TEAR OUT AND MAIL FOR FREE BOOK

Photograph shows a Snap-Sack held up-side-down. The elastic opening spreads wide for easy filling, then closes automatically leaving an opening large enough for ventilation, but too small for fruit to escape.

**this is a  
SNAP-  
SACK!**



## the most saleable way to pack and sell apples

Snap-Sacks are tough Pliofilm bags with a sewed-in elastic band. Their transparency gives apples a pleasing, polished appearance and tests prove that they out-sell both bulk and mesh-bagged fruit. They can be colorfully printed and are truly economical. Snap-Sacks cost less than the "next best bag," and packers report the cost of packing eight 5-lb. Snap-Sacks is considerably less than the cost of packing one bushel basket. Ask for free samples and prices.

ASK FOR  
**FREE  
SAMPLE**

### SHELLMAR PACKAGES

SHELLMAR PRODUCTS CORPORATION

GENERAL OFFICE, MOUNT VERNON, OHIO

PLANTS: MT. VERNON and ZANESVILLE, OHIO • SOUTH BAY, CALIF. • MEADE CITY, NEBRASKA • HEBELMAN, COLORADO • SAN PABLO, CALIF.  
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**AUGUST**  
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IN U.S.A.]

AMERICAN FRUIT GROWER



# Parathion News

## "NEVER HAD A GOOD SPRAYING PROGRAM UNTIL PARATHION" SAYS KENTUCKY PEACH GROWER

### Scale, Red Mites Eliminated

Stating that insecticides containing THIOPHOS® Parathion are the first to meet his needs for a sound spraying program in his orchards, a Kentucky peach grower reported that his 1949 experience with parathion insecticides led to his decision to use them again this year for complete crop protection.

"Excellent control of leaf roller" on strawberries is the report of a Michigan grower who used a dust formulated with parathion. In Georgia, a peach grower explains his plans to use the material again this year by saying that after only one application of a parathion insecticide against plum curculio in 1949, "hardly an insect could be found on the bumping sheets."

Grasshoppers, always a serious menace, were very satisfactorily controlled

by parathion insecticides in a Virginia apple-growing region, according to a report received at American Cyanamid Company, original developers of parathion. Mites, leaf rollers, codling moths, aphids and scale are also ready victims of this highly toxic insecticide ingredient, while most of the insects commonly infesting such fruits as grapes, pears, prunes, plums and walnuts can be controlled successfully when parathion is applied according to manufacturers' directions.



*HIGHER YIELDS of strawberries and many orchard fruits are assured when insect and mite infestation is held to a minimum through frequent early applications of parathion insecticides.*

### Thiophos Parathion Insecticides made by National Manufacturers

Dust and wettable-powder formulations made from THIOPHOS Parathion are available from reputable manufacturers.

### Weather, Timing, Method of Application Important Factors In Successful Use of Parathion

To profit fully from the efficiency of parathion as a pest killer, farmers and fruit growers are being urged by Federal and State agricultural experts to observe carefully the manufacturers' instructions for applying parathion to specific crops. Such factors as weather, timing in relation to the development of the crop and insects, and method of application are known to be just as important as the correct dosage in achieving best results. For this reason, users are advised to consult with local agricultural experts or manufacturers' representatives to be sure of getting the most complete pest control and crop protection with this remarkable insecticide.

## Learn to Use Parathion Safely

Parathion insecticides are extremely hazardous to humans if handled carelessly and in defiance of the recommended precautions.

The precautions are required to be on every container of parathion insecticides. They must be read carefully and observed strictly to avoid accidents.

Spraying and dusting crews who are given parathion to handle and apply should be fully acquainted with the precautions and the need to observe them rigidly.

## Be sure to write for Growers' Manual on Parathion

*AMERICAN Cyanamid COMPANY*

Agricultural Chemicals Division

30-X ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Please send me Growers' Manual giving latest recommendations for using Parathion.

Name

Address

# Dodge FARM TRUCKS CAN SURE "TAKE IT"!

**THEY'RE "Job-Rated"  
FOR DEPENDABILITY**



**You get POWER that  
serves season after season!**

It's "Job-Rated" power. You get plenty of power . . . for field or road . . . for any farm job. It's money-saving power, too! You don't waste gas on an engine that's too big. You don't risk high upkeep costs with an engine that's too small.

**You get a CHASSIS that keeps going and going!**

It's a "Job-Rated" chassis. From bumper to bumper, your Dodge "Job-Rated" truck is built to haul your farm loads at low cost, for a long, long time. You can carry bigger loads. And its ease-of-handling is something to brag about!



**You get a BODY that lasts and lasts!**



It's a "Job-Rated" body—built to withstand tough service. It's extra strong and rugged . . . extra convenient . . . extra safe! And the Dodge "Job-Rated" truck cab has the widest seat and windshield with best vision of any popular truck on the market.

**Now! gyrol FLUID DRIVE**—Lengthens truck life. Available on all  $\frac{1}{2}$ ,  $\frac{3}{4}$ - and 1-ton models. Ask your Dodge dealer for free illustrated booklet.

**"Job-Rated" ... for low cost  
transportation**

**POWER:** . . . 8 great truck engines—each "Job-Rated" for PLUS power.

**ECONOMY:** . . . priced with the lowest. "Job-Rated" for dependability and long life.

**BIGGER PAYLOADS:** . . . carry more without overloading axles or springs because of "Job-Rated" WEIGHT DISTRIBUTION.

**EASIER HANDLING:** . . . sharper turning! Parks in tight places. "Job-Rated" maneuverability!

**COMFORT:** . . . widest seats . . . windshield with best vision of any popular truck. Air-cushioned, adjustable "chair-height" seats.

**SAFETY:** . . . finest truck brakes in the industry . . . hand brake operating independently on propeller shaft on all models— $\frac{1}{2}$ -ton and up.

with all their extra value **DODGE** *Job-Rated* **TRUCKS** are priced with the lowest

# LETTERS TO THE EDITOR

## Needed: Front Mounted Mower

Dear Sir:

The letter from Kenneth Platt, Milford, Conn., in the May issue caught my attention. With the increasing stress on soil conservation, sod mulch, and sod culture systems in orchards, there is a definite need for a full capacity front-mounted cutter bar to enable the grower with closely spaced trees, such as peach and cherry, to open up the center of rows. Also, where deep mulch is used with only narrow aisles of grass between trees, the cutter bar directly ahead of the tractor would be much easier to use and would not disturb mulch by running over it with tractor, as is necessary with conventional side cutters if row centers are to be mowed.

In our orchards a front-mounted cutter bar would reduce our mowing time more than 50 per cent and enable us to do a much better job without knocking off fruit or disturbing mulch.

Cleaning up fence rows, headlands, watercourses, terraces, mowing farm lots, parks, etc.—all could be done easier with a front-mounted cutter bar requiring no more clearance than width of tractor.

When some enterprising manufacturer produces such a mower—one that can be converted by the movement of a lever or the touch of the hydraulic control from a front cutter to a side cutter and which can be readily attached to the front end of a loader on any tractor—then I believe there will be a complete revolution in the old mowing machine, as far as fruit growers are concerned, and that it will be a greater improvement over the tractor mower of today than it was over the old horse-drawn mowers of a few years ago.

Ernest J. Downing

## Cluster of 28 Apples!

Gentlemen:

I saw the picture of the rope of apples sent in by W. Bruce Clinger in your June issue. One can see a lot of such apples here if one doesn't go right along breathing down the shirt collars of his orchard help—they will neatly cut an unthinned branch behind a thinned one if no one is looking. Last year we found such a limb that had 18 perfect apples, all nearly the same size.

We have seen such ropes of apples on Winesap and Red Delicious. There was also a huge nosegay of Jonathan (Blackjacks) in the crotch of a limb that were nearly all the same size; there were 28 of them and all were fancy and extra fancy. I find, like Mr. Clinger, it is a source of wonder to find such ropes of perfect apples and all a nice color, too.

Mrs. W. S. McVay

## Origin of Delicious

Dear Sir:

I have just recently bought a fruit farm and already I am confused about apple varieties. Are Delicious, Starking Delicious, and Richared different varieties or are they just different color sports? Also, could you tell me something about their origin?

Albion, N. Y.

H. E. P.

The Starking apple, introduced by Stark Bros. Nurseries, originated as a bud sport on a Delicious tree in the orchard of Lewis Mond, Monroeville, N. J. The fruit is similar to Delicious in all respects except that the red color is solid rather than striped or splashed, and the color develops much earlier. Richared originated in the orchard of

Lewis Richardson, Monitor, Wash. It, too, is a bud sport but one which appeared on an entire tree planted in 1910; the sporting characteristic was noted in 1919. It was introduced as Richared about 1920 and is propagated by the Columbia & Okanogan Nursery. It colors rather early and is a solid bright cherry red.

The Delicious apple grew from a seedling in the orchard of Jesse Hiatt of Madison County, Iowa, and was discovered in 1872. First called Hawk-eye, the name was later changed to Delicious by C. M. Stark when Stark Brothers Nursery purchased the propagating rights in 1894.—Ed.

## Restore Forests to Increase Water Supply

Dear Editor:

After reading your splendid editorial, "Leadership Needed in Water Conservation," in the June AMERICAN FRUIT GROWER, I am mailing you a couple of circulars I had printed years ago, hoping you may be able to do something with the idea of restored forests for water supply.

Taking up surplus farming land with restored forests would have cost our government less than paying for idle land, as was being done at the time the circulars were written, and farmers would not need or want support prices for farm products if there were no surplus.

After spending years mailing the two circulars to influential people, I concluded that the political party then in power did not want restored forests since they could not influence votes that way. One man wrote that they wanted to treat all farmers alike.

Riding over our country, anyone who knows the value of forests can see that our nation is being weakened by destroyed forests. Even in the Ozark hills, the trees are being cut more and more each year, resulting in loss of what top fertility they had and in a lower water line from year to year. More and more springs that were considered everlasting are going dry.

Now we have the Communists to fear; but if times get normal again, surely one of the things our nation will want to do is raise the water line by restoring forests on hilly, rough land. Maybe we will have time to figure out how to grow better trees than were in our original forests. Since forests benefit all, it would seem to me that we would want to help pay for restored forests.

Oregon, Mo.

George F. Logan

## Fruit Recipes Wanted

Dear Sir:

Since I know many housewives read your magazine, I think it would be a good idea to include some fruit recipes in each issue. Perhaps these could be sent in by your readers who, I am sure, must have some special fruit dishes or unusual ideas for serving fruit which they would like to share with others. We can all find conventional fruit recipes in a regular cookbook, but I would like to see some new and different ways to utilize fruit.

Columbia, Mo.

Mrs. J. H. B.

This is an excellent idea and we hope our homemaking readers will send in their favorite fruit recipes. For those used we will pay \$1.00 upon publication. Send your recipes to the Home Economics Editor, AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland 13, Ohio.—Ed.

## CHASE SAXOLIN

CONSUMER SIZE  
OPEN MESH APPLE BAGS

4 lbs. . . .

5 lbs. . . .

8 lbs. . . .

10 lbs. . . .



Chase Saxolin open mesh apple bags are now available! The bag that displays your product to the best advantage and promotes quick, profitable sales. Ideal also for oranges, grapefruit, lemons, and limes.

FILL OUT AND MAIL THE COUPON BELOW FOR SAMPLE BAGS AND PRICES

CHASE BAG CO.,  
309 W. Jackson Blvd., Chicago 6, Ill.

We are interested in Saxolin Bags of colors and sizes checked:

### APPLES

Size: 4 lbs. . . . 5 lbs. . . . 8 lbs. . . .  
10 lbs. . . .

Color: Purple. . . . Tangerine. . . .

### ORANGES

Size: 5 lbs. . . . 7 lbs. . . . 8 lbs. . . .  
Color: Tangerine

### GRAPEFRUIT

Size: 5 lbs. . . . 7 lbs. . . . 8 lbs. . . .  
Color: Yellow

### LEMONS (yellow color) LIMES (green)

Size: 2 lbs. . . . 3 lbs. . . .

Please send samples of:

SIZE. . . . . COLOR. . . . .

NAME. . . . .

ADDRESS. . . . .

Please print

## CHASE BAG CO.

GENERAL SALES OFFICES

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BOISE • BUFFALO • CHAGRIN FALLS • CLEVELAND • CROSSETT ARK. • DALLAS • DENVER • DETROIT • GOSHEN IND. • HARLINGEN TEXAS • HUTCHINSON KANS. • KANSAS CITY • LOS ANGELES • MEMPHIS • MILWAUKEE • MINNEAPOLIS • NEW ORLEANS • NEW YORK • OKLAHOMA CITY • ORLANDO, FLA. • PHILADELPHIA • PITTSBURGH • PORTLAND, ORE. • REIDSVILLE, N. C. • ST. LOUIS • SALT LAKE CITY • TOLEDO • SAN FRANCISCO



#### WHY RETAILERS GO FOR IT

*Large super-market sold 700 pounds of Plio film bagged apples in day and a half — compared with only six bushels (270 lbs.) in bulk during entire week previous. MANY REPORTS LIKE THIS!*

## It pays to pack apples, onions, potatoes, oranges in this bag!

*Plio film "Snap-Sack"  
by Shellmar Products  
Corp., Mt. Vernon, Ohio*

THERE are THREE big reasons why more and more growers are packing citrus fruits, apples, onions, potatoes and other bulky produce in tough, rugged, transparent **Plio film** super-market bags.

**1**—Produce reaches market cleaner, fresher, more salable—because moistureproof **Plio film** seals in juice and flavor, prevents drying out.

**2**—Produce packed in transparent, consumer-size **Plio film** packages sells faster wholesale, commands higher price retail. Records prove it!

**3**—**Plio film** packaging builds brand acceptance, insures reorders—because retailers and consumers can SEE uniform size and quality under your label.

Proof of all this is the fact that growers, shippers and repackers are using larger numbers of **Plio film** super-market bags every month—because they boom sales and cut costs. Available in most sizes, plain or printed, with tie, elastic or self-sealing tops. Write: Goodyear, Plio film Dept., Akron 16, Ohio.

Good things are better in

**Plio film**  
**GOOD YEAR**

*3-way protection against  
air, moisture, liquids*

THE GREATEST NAME IN RUBBER

Plio film, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company

# YOUR FUTURE'S IN THE *Bag*

Prepackaging in the State of Washington—and elsewhere too—is experiencing the growing pains of infancy but shows promise of steady growth, as pointed out by the author, who is director of research of the Washington State Apple Commission.

By EARL W. CARLSEN

**P**REPACKAGING in the State of Washington continued its growth during the last packing season, but this growth was much slower than many expected. So much had been said about prepackaging, that, judging from indications coming back from the markets, the developments of the past season were a little disappointing to many. However, there probably are a number of sound reasons why the prepackaging trend has not developed into a boom in the Pacific Northwest.

To start with, those who prepared prepackaged apples in Washington State last year found the movement of packaged apples blocked by the unusually large, fine-quality crop in the East. Some of the markets which had made purchases of prepackaged apples from the Northwest were procuring prepackaged apples from the producing areas closer to them. Although no factual information is available on the quantity of fruit packaged in the Midwest and eastern areas, heresay reports in Washington State suggest that the packaged volume was quite large.

Another deterrent to prepackaging of apples during the past season was the larger size of apple in the crop. The year before, prepackaging had gotten what appeared to be a very good start because it helped to move smaller-sized Winesaps of which there were a great number.

The past season was well underway before it was discovered that large-sized Delicious, for instance, could be shipped pre-bagged with very good arrival condition. A number of cars were shipped from the remaining unbagged Delicious, but most of the Delicious had already been packed.

Another factor that affected the movement of prepackaged apples has been surmised to be associated with the three-pound unit. While the three-pound unit is highly desirable from a merchandising standpoint,

the high costs of packing out this smaller unit apparently was an obstacle.

In a season when there were great quantities of apples throughout the country, and many times a number of cars of Washington State apples, remained unsold on track in terminal markets, it could hardly be expected that many buyers would be in a position to pay the 60-cent approximate extra cost of packing three-pound apples over the standard pack.

It was estimated that under the past season's conditions it required approximately 20 cents more per carton to pack apples out in three-pound bags than in four-pound bags.

Then, of course, there were all of the usual deterrents to selling shipping-point prepackaged apples. The lack of "know how" on the part of the buyers and sellers in trading on fruit packed this way was one of these.

Prepackaged apples apparently need to be bought and sold on semi-contractual arrangements. They cannot be bagged in advance as long as they have established no broad market. It is also risky from a quality-control standpoint to prepack apples for holding rather than for immediate movement through retail stores.

Whether it was because of the higher costs or because of the availability of standard packed fruit on local tracks, buyers seemed reluctant

last season to give orders two weeks in advance—the length of time necessary to pre-bag and ship apples to most of the markets from Washington State.

The number of cars shipped prepackaged are shown below:

## Prepackaged Shipments From Washington State

	'47-'48	'48-'49	'49-'50
	Cars		
Film Bags.....	0	61	132
Cardboard Cartons..	89	100	97
Mesh Bags.....	86	20	1/4
Total .....	175	181	229 1/4

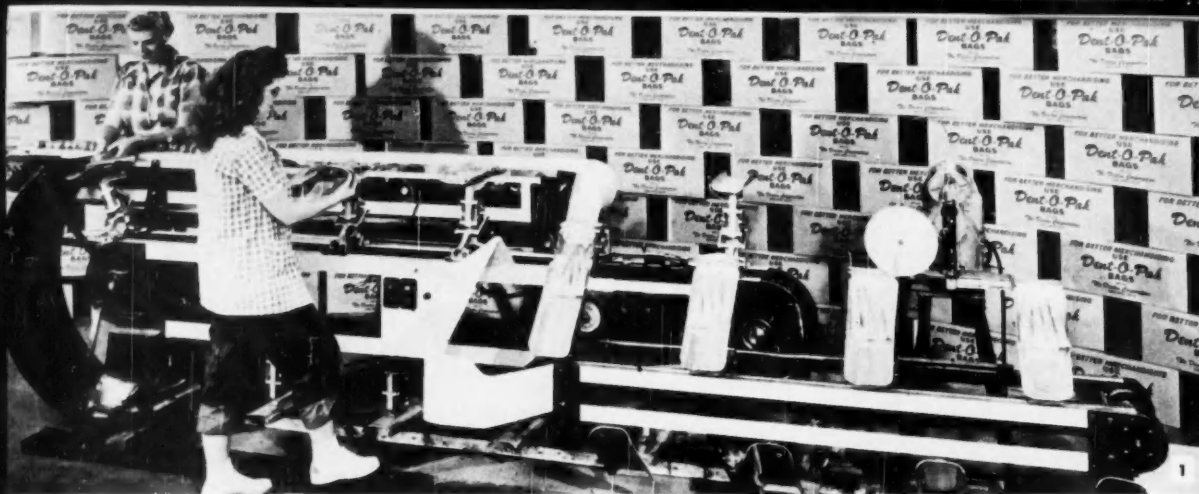
There were 229 cars shipped from Washington State last season, nearly 40 cars over the previous year. It should not be assumed, however, that these 229 cars were the only Washington apples prepackaged, for there were many apples from standard packed boxes prepackaged at terminal points or in retail stores.

The most popular prepackaging unit for apples in Washington State last year was the transparent film bag (pliofilm, cellophane, etc.). Among the different types of film bags, the most popular seemed to be the elastic closure top. This type closure not only simplified closing the bags but frequently seemed to pack into master containers with more ease.

One difficulty with this type bag, (Continued on page 27)







# PREPACKAGING CREATES "PLUS" SALES

By ELDON S. BANTA

**"T**WO IN A BAG are worth four in a bushel" might be an appropriate paraphrasing of an old epigram, after viewing modern trends in prepackaging fruits.

Some six years ago, I heard a leading New York merchant say that in 10 years the apple basket would be as obsolete in grocery stores as the sugar barrel and flour bin now are. Perhaps he was right. At least we are witnessing some notable changes in packages for apples as well as those for other fruits. And Mrs. Consumer is largely to blame for it. But it may well prove to be a blessing for the apple industry.

The apple is an attractive, appealing fruit that delights the tastes of all, young and old alike. Somehow by the time Mrs. Consumer gets ready to buy her prize apples in the store, they have lost much of their gay appearance. And we are told that apple purchases are made largely on the basis of eye appeal. To sell a lot of them, they must have what it takes—good color, size, and condition.

Now when a big apple year as 1949 rolls around, there is a mad scramble to get rid of the crop before falling prices wipe out profits. Probably one of the virtues of a bumper crop is its resulting stimulation to improve merchandising methods.

With the widespread development of self-service stores during the past decade, there has necessarily been a change to consumer packaged units

**Taking advantage of their nearness to large consuming centers, several aggressive Ohio growers bagged their apples and bagged some extra profits—in the face of last year's big apple crop.**

of produce wherever feasible. Apples along with other fresh fruits have run the gamut of experimentation in prepackaging. But it takes adversity to push a change over the hump into the realm of practicability, and 1949's big crop pushed a lot of apples into bags or other consumer units. And many growers were amazed by the quick sale of the packaged fruits.

Last year's experiences of five prominent Ohio growers will shed some light on consumer packaging of apples. E. S. McConnell & Sons near Ravenna, in Ohio's heavy apple growing area, probably packaged as many apples as any grower in the state. Out of a crop of some 40,000 bushels, they put 15,000 in four-quart fiber baskets and five-pound pliofilm bags.

Faced at the beginning of the Wealthy season with a dull market, the McConnells decided to try consumer packages. They got in 60,000 four-quart baskets after discussing the idea with their Cleveland buyer. The first truckload went into Cleve-

land with a question mark. The buyer, a large retail chain, put the packaged apples in some of its 130-odd stores. The next day they wanted more. The sales continued to climb each week and soon the McConnells were delivering a truckload a day and sometimes two to the Cleveland warehouse.

In addition to the basket, they tried the five-pound pliofilm bag. It sold even better than the basket, so an order for 60,000 bags went through.

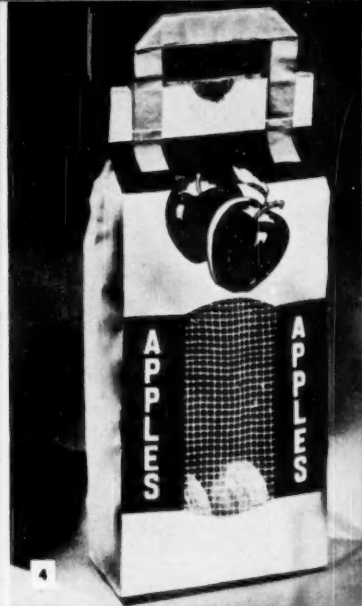
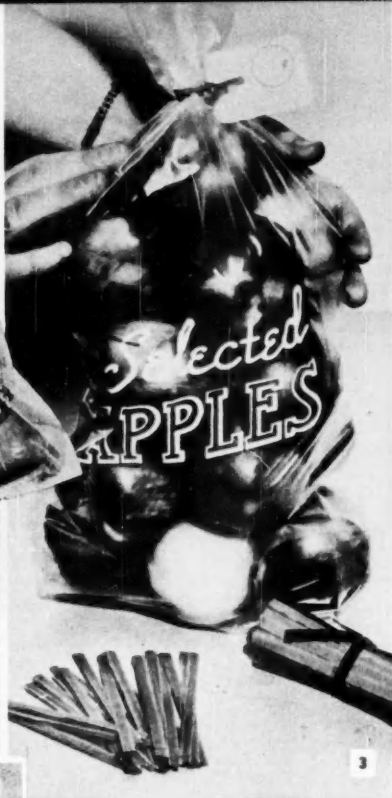
The baskets and bags were packed eight to a master carton, thus making a total weight of 40 pounds of apples per carton. Shortly after starting their prepackaging operations, the McConnells put 1,200 cartons in the warehouse in one week. The following week they hauled 1,800 cartons into the same warehouse. At the height of the season they were trucking over 2,000 cartons a week. By the end of February, McConnells were sold out of apples.

The bags and baskets were filled by hand from the grader bins, employing some five or six people filling bags and three or four others helping move apples in and packing the filled bags in cartons. A large printed card bearing the name of the orchard, variety, size, and grade of fruit was dropped inside the bag and the top pinched together and tied with Twistems. These are small paper-covered wires commonly used in bunching vegetables. An advantage

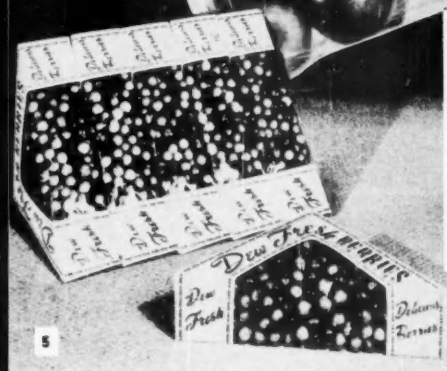
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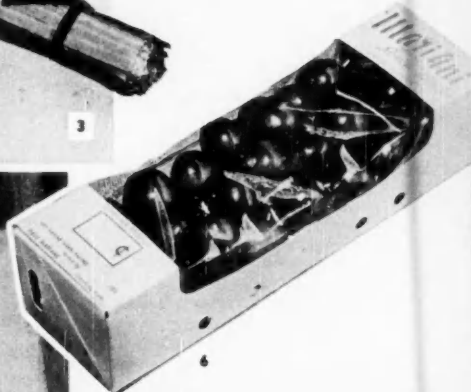
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1. Automatic equipment speeds the packaging of pliofilm Dent-O-Pack bags made by The Denton Corp., Oakland, Calif.
2. An elastic closure features the pliofilm Snap-Sack manufactured by Shellmar Products Corp., Mount Vernon, Ohio.
3. Twistems securely close this bag made of Du Pont transparent Polythene film.
4. The Vent-Vu is made by Union Bag & Paper Corp., New York 7, N. Y.
5. Suitable for small fruits is the box developed by Edwin J. Schoettle Co., Phila.
6. This consumer carton was designed by Fleishhacker Paper Box Co., San Francisco.
7. Another Fleishhacker development is this 1950 prize-winning grape carton. Photo courtesy Pre-Pack-Age.
8. The Zip-Lok drawstring bag of pliofilm is made by Milprint, Inc., Milwaukee.
9. Claude Bailey, apple grower at Burnt Hills, N. Y., developed by Bailey-Pak. Photo courtesy Pre-Pack-Age.

# THE FRUIT AREAS OF AMERICA EAST OF THE CASCADES

By BILL HOARD

## SECOND OF A SERIES

The first article in this series on America's important fruit-producing areas appeared in our May issue and dealt with New Jersey.—Ed.

**"EAST OF THE CASCADES"** in Washington state is a region of contrasts, a region of color and glamour, a region of rich, lush valleys jammed to overflowing with well-tended fruit orchards.

Geographically, this area is divided into three separate fruit districts, and in each district there are different valleys and subdivisions.

The area is composed of a chain of valleys on the eastern slopes of the beautiful green and white Cascade Mountains . . . a scenic range that divides Washington State into two regions as different as Maine and Arizona.

Western Washington, with its great forests of the Giant Douglas fir, is an area of lumbering and fishing and industry. But East of the Cascades the land is dry. The pine trees get only 15 inches of moisture a year, and millions of acres grow nothing but sagebrush and sparse grass.

But there are the irrigated fruit valleys of Eastern Washington, extending down from the Cascade Mountains to the turbulent Columbia River, the nation's number one power stream.

Talking about these rich valleys and the wonderful fruit crops they produce is the favorite occupation of the 8,000 fruit growers who live in these valley areas.

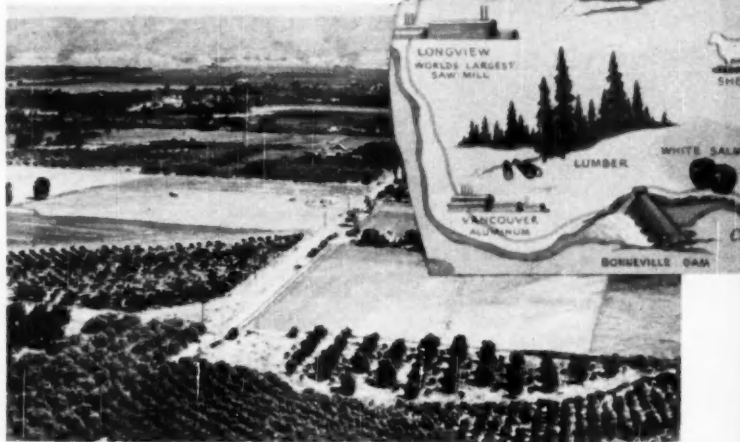
The three districts are the Yakima Valley, the Wenatchee, and the Okanogan.

Here are some of the pertinent

facts. The Yakima Valley is biggest and broadest and has the greatest amount of diversification. There are big orchards and small, and as in all of Eastern Washington, every orchard is irrigated. The city of Yakima is the trading center for what the Yakima Chamber of Commerce fondly calls the Fruit Bowl of the Nation.

In the Upper Yakima Valley are prime apple-growing districts—the Tieton, Cowiche, Naches, and Selah. West of the city is the Wiley area, Gromore, and Wide Hollow. In the Lower Valley, soft fruit trees predominate and here are such districts as Buena Heights, Zillah, Grandview, and Sunnyside.

There are private irrigation systems in the Yakima area, and except for



The Yakima Valley is broad and serene and productive. Photo courtesy Bureau of Reclamation.

Grand Coulee the biggest Bureau of Reclamation projects in the state supply this section.

The new Roza division brings water to 70,000 acres of new, rich land along the eastern edge of the valley, 20 miles over the hill from the Hanford atomic energy plant and plutonium piles.

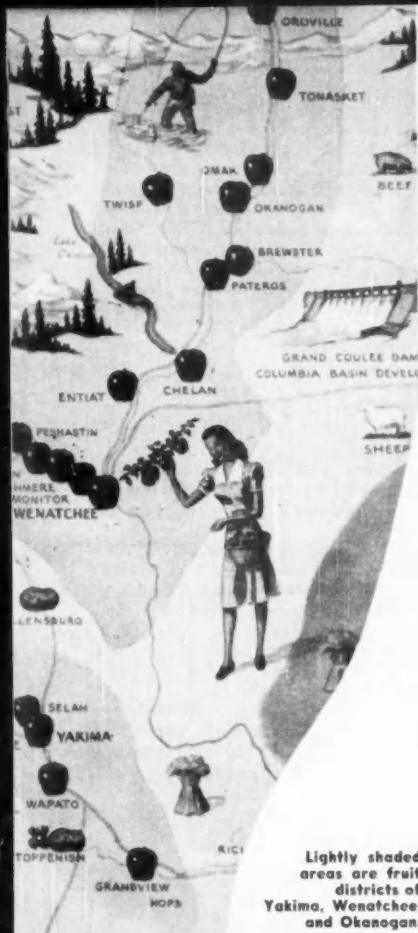
Exactly in the center of Washington state is Wenatchee, which ships apples from a dozen valleys and is the

world's largest apple shipping point. Here, the Chamber of Commerce proclaims to one and all, is the Apple Capital of the World.

Wenatchee is on the Columbia River at the mouth of the Wenatchee River, and orchards are located on practically every available flat spot, and up the valleys' sides to the basalt ramparts above.

Wenatchee Valley towns and dis-

AMERICAN FRUIT GROWER



Lightly shaded areas are fruit districts of Yakima, Wenatchee, and Okanogan.



tricts are Malaga, Rock Island, Peashtin, Leavenworth, Dryden, and Cashmere. Yakima Valley has Sunnyside, and Wenatchee has Sunnyslope.

Up the Columbia are Entiat, Oroondo, Chelan, Lakeside, and Manson. These last three are on famous Lake Chelan, 54 miles long, leading from close to the Columbia River right into the heart of Lake Chelan. And apples are even grown at the upper end of the lake, where the snow is often 15 feet deep.

Traveling north, the next valleys are part of Okanogan County, and the apples from these cool northern valleys go to market through Wenatchee . . . mostly on the Great Northern. The Yakima Valley has two railroads, the Northern Pacific and the Union Pacific, while the Milwaukee transcontinental lines goes through the Kittitas Valley, which is hay and stock country, and misses the lucrative apple hauling business.

The Okanogan Valley is the southern part of Canada's Okanogan district. North of the border it's spelled with an "a" in the third syllable instead of an "o."

A parallel valley is the Methow, and the two rivers join the Columbia eight miles apart. In the Methow, are Twisp, Winthrop, and Carlton, with Pateros at the lower end.

In the Okanogan Valley are Malott, site of Jim Wade's 600-acre apple spread, the city of Okanogan, Omak, Riverside, Tonasket, and Oroville, almost on the Canadian border.

So much for Geography. How about a history lesson next?

There were fruit trees—apples of course—planted late in the 19th century near Oroville and they are still alive. The first trees in Washington state were planted in the days of the Astor and Hudson Bay companies, in

the first years of the 19th century. These trees, too, are still alive, after nearly a century and a half, and that is a long, long time in this new western country.

The first trees in the Yakima Valley were planted in 1868 by Father Boulet, a missionary who came to teach and work with the Indians. He established a mission in the Ahtanum a few miles west of the city of Yakima, and as recently as 15 years ago the whites and the Indians were still arguing about water rights on Ahtanum creek, used to irrigate apple orchards.

The mission was the first structure built in the valley by white men, and was established 21 years before the apple trees came into the valley.

Father Boulet and his Indian guide brought the apple trees into the valley from The Dalles, early-day pioneer settlement on the lower Columbia River. The switches were tied in bundles, the roots were wrapped in moss, and the tender apple trees had to be taken down from behind the saddles of the two horses at every stream crossing to be dampened as the journey progressed.

Here, again, some of the original apple trees are still alive at the site of the old Ahtanum mission.

In the Wenatchee area, two pioneer traders, Miller and Freer, operators of a trading post at the mouth of the Wenatchee River, planted apple trees along with grapes and other fruits in the 1880's.

Phillip Miller, no relation to the store-keeper, had good-sized bearing orchards when the railroad came through in 1892.

Other pioneers in the apple industry were Harry Shotwell and his father, Harry still lives on his ranch near Monitor, eight miles from Wenatchee.

(Continued on page 18)



Marjorie Hughes, daughter of F. L. Overley, Washington State Experiment Station superintendent at Wenatchee, demonstrates (at left) the technique in harvesting Washington apples. Above—The apple commission, operating for 12 years in Washington State, assesses growers two and a half cents a box for advertising and promotion. Picture was taken in a Kroger store in Atlanta.



# FLORIDA LEADS THE WAY WITH MESH BAGS

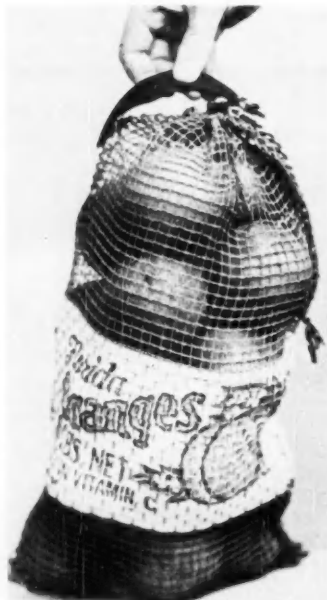
**Hundreds of thousands of the bright, strong bags are used for marketing oranges**

By CLYDE BEALE

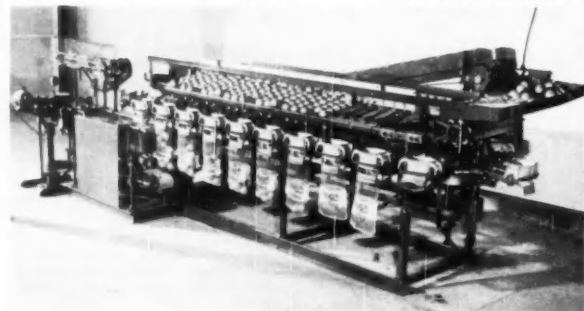
**N**EARLY five million of the 43,534,142 boxes of Florida oranges packed in 1948-49 were put up in mesh bags for convenient sale to consumers, the size of the bags ranging from five pounds to four-fifths of a bushel.

By rail and truck, bags of the golden fruit are shipped yearly to all parts of the country; and most of the fruit sold to tourists and residents of Florida at the attractive roadside stands throughout the State is packaged in bags. The majority of the grove owners who have stands pack their own fruit in the mesh bags, while other roadside stand operators obtain the packed bags direct from citrus packing houses.

Because of the time and labor-saving angle and the ease with which this consumer unit can be arranged in attractive displays, self-service and chain stores have been especially interested in the bright-colored bags of fruit to supplement their bulk displays of citrus. And when labor was scarce during World War II, bagged fruit proved a boon to these stores as it eliminated the necessity for selecting, weighing, and packaging bulk



The popular eight-pound size.



Hourly capacity of this automatic packing machine is 18,000 eight-pound bags of citrus.

fruit for their customers.

The standard box in which the major portion of Florida's citrus crop is packed holds one and three-fifths bushels. This is the unit of measure

*Clyde Beale is associate extension editor for the Agricultural Extension Service in Gainesville, Fla.*

used in this article to indicate the amount of fruit put up in mesh bags.

Relatively few mesh bags were in use in the early '30's but near the close of that decade, in fact, during the 1938-39 season, 5,226,086 boxes of fruit were packed in bags. Since then

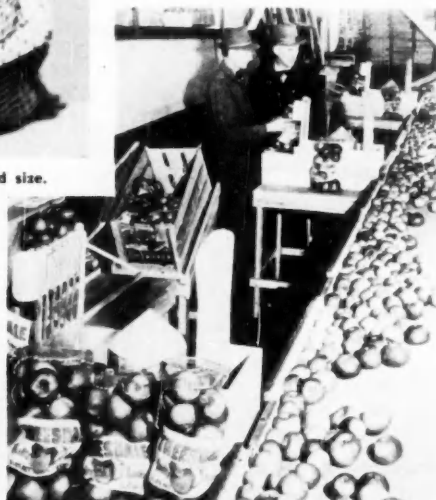
the volume has fluctuated slightly up and down, more or less in accordance with the size of the crop.

In 1939-40—a short crop year—the number of boxes of citrus put up in bags in Florida totaled only 1,473,688 out of a total pack of 27,233,939 boxes. During recent years—since 1939-40—the number has ranged from four to five million boxes, and in 1948-49 the number of boxes of citrus put up in bags totaled 5,318,456.

While filling of the bags in some instances is done entirely by hand, special equipment is used in most packing houses to pack, weigh, and tie the bags, and endless conveyor belts carry the filled bags to freight car or truck for shipment. Compared with hand labor, the automatic equipment steps up the packing operation three to four times.

The eight-pound bag has proved the most popular size among consumers, thus substantiating the belief of marketing experts that eight pounds is the average amount of oranges the average family prefers to buy at one time. The experts had felt that the five-pound bag is not quite sufficient for the average family, and the demand for this unit bears out their belief. During the 1948-49 season, 367,441 boxes were packed in the five-pound size.

The four-fifths bushel bag was next in popularity in 1948-49, with 312,-



The apple also lends itself to packaging in the bright-colored consumer mesh bag.

728 boxes packed in this unit.

At roadside stands, the five, eight, 20, and 45-pound (four-fifths bushel) sizes are preferred.

Economic conditions, however, have a direct bearing on the size of bag  
(Continued on page 29)



# FEEDING AND WATERING ORCHARD SOILS

By L. D. DONEEN, *University of California*

IN THE western states, particularly in California, fertilizers are applied directly in the irrigation water. Considerable interest has been shown in this method of fertilizing and irrigating in the same operation and at present considerable quantities of soluble fertilizers are applied in this way. Many of these are simple liquid fertilizers such as phosphoric acid, ammonium, and urea or nitrate nitrogen solutions. There are many mixed liquid fertilizers containing two or more of the following ingredients: nitrate, ammonia, organic nitrogen, phosphate, and potash; and some contain additional minor elements.

A large per cent of fertilizer applied in the irrigation water is anhydrous ammonia. The ammonia gas is compressed in steel cylinders until it is a liquid and transported to the field. A metering orifice and a hose are attached to carry the ammonia from the cylinder to the irrigation stream where the gas is absorbed in the water.

Occasionally, soluble dry fertilizers such as ammonium sulfate or ammonium nitrate are applied directly to the irrigation water. Bags of fertilizer are slit and placed in the bottom of the irrigation ditch. As the water flows over the bags, the fertilizer is dissolved and carried into the furrows. This method of application has not been satisfactory because the varying concentration of fertilizer in the irrigation water gives a poor distribution in the field.

Recent developments of machines to meter dry soil amendments (gypsum) into the irrigation water have stimulated an interest in applying dry nitrogen fertilizers by this method.

Of the fertilizers applied directly in the irrigation water, anhydrous ammonia ( $\text{NH}_3$ ) has surpassed all others in quantity used. The University of California is studying field distribution and utilization by crops of fertilizer applied through irrigation water. Most of this work has been with the nitrogen fertilizers. Nitrogen usually is the first limiting element and, in most cases, the only nutrient that gives a response in the field.

Most of the liquid and dry fertiliz-

**The use of supplemental irrigation in the East has raised the question of the practicability of applying fertilizers in irrigation waters. This practice is in general use in the West, where quality of the irrigation water, with particular respect to salinity, is assuming great importance to the fruit grower.**

ers are stable in irrigation water. The exception would be ammonia gas dissolved in water, "aqua ammonia," and anhydrous ammonia. These materials cause the water to become alkaline. Under alkaline conditions and high concentration, ammonia losses occur by volatilization. Recent studies made in open ditches and furrows up to a mile in length indicated very little loss of ammonia from the irrigation water when the concentration is at or below 120 parts per million even with water temperatures at 90° F. With concentrations of 500 ppm or more of ammonia in water, sufficient volatilization occurred to burn potato leaves above the irrigation furrow.

Anhydrous ammonia is usually applied for the entire irrigation, and

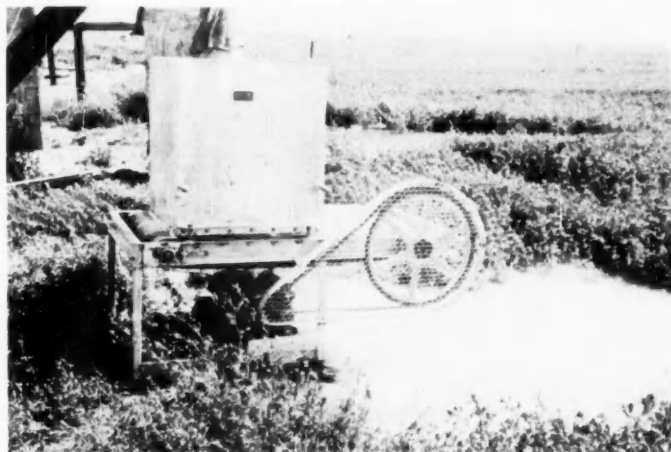
the orifice meter should be set to maintain a concentration between 25 to 75 ppm. To maintain the concentration below 100 ppm it is customary to split heavy applications of ammonia gas between two or three irrigations.

The dissemination of fertilizer depends on the distribution of water. For example, if the penetration of water is deepest near the head ditch, it would carry the greatest amount of fertilizer into the soil, or ponding of the irrigation water on the lower end of the field would result in a greater accumulation of fertilizer in this area.

Some interest has been shown in the application of fertilizer through sprinkler irrigation. The fertilizer materials are usually introduced into the water on the intake side of the pump; however, in a few cases where this is not practical, the fertilizer solution is injected on the pressure side of the system with a high pressure pump.

Most fertilizer materials are very corrosive to pumps and sprinkler equipment. After application of fertilizer, the equipment should be well washed. Liquid (aqua ammonia) or anhydrous ammonia should not be applied through a sprinkler system because of loss of volatilization.

If fertilizers are applied through  
(Continued on page 22)



A machine developed by the Kern County (Calif.) Agricultural Extension Service to meter soil amendments (gypsum) and dry soluble fertilizers into the irrigation water.



## • Intense Heat Damages California Crops • Appalachian Processors Make "Extra Payments"

**CALIFORNIA, July 13**—Humidity and Old Sol, for about a week during late June and early July, combined to damage fruit crops extensively.

Greatest damage occurred to the prune and grape crops. About 10 per cent of the prune crop suffered severe sunburn and cracking.

In the San Joaquin Valley 20 to 30 per cent of the Muscat grapes and 10 to 20 per cent of the Thompsons were severely damaged.

The heat was so intense that it not only blasted the grapes but also sunscalded the exposed branches and wilted stems and canes in the shade. This type of damage hasn't occurred in the past 40 years.

In clean cultivated vineyards, the sun bounced off the ground up into the interior of the vines. Where there were weeds or cracking in the vineyards, less damage occurred.

Apricot shipments from Stanislaus County in the San Joaquin Valley were stopped due to pit-burn. The entire apricot crop was hastened so rapidly in the ripening process that it is feared even more small-sized fruit will be on hand than originally estimated.

The Los Angeles area reports a heavy drop of young oranges.—*Jack T. Pickett, San Francisco.*

**NEW YORK**—Howard E. Babcock of Ithaca, organizer and former president of the Co-operative Grange League Federation Exchange and one of the nation's foremost agricultural leaders, died July 13 at the age of 61.

Mr. Babcock organized the exchange in 1920 for the purpose of buying farm supplies on a non-profit basis for New York farmers. The exchange subsequently became one of the nation's largest co-operative buying organizations, doing a gross annual business in 1929 of \$40 million.

Mr. Babcock was at one time professor of marketing at Cornell, where a fund to promote nutrition studies was named for him.

**VIRGINIA**—Grower-processor relationships in the Appalachian area perhaps are on a firmer basis than they have ever been before. The reason: Voluntary additional payments over the prices established in the fall of 1949 to apple growers by two of the large processors in the area.

The "extra payment" recently made by the C. H. Musselman Company to growers from whom they purchased apples in 1949 amounted to 10 cents per cwt. on No. 1 apples 2½ inches and up.

Growers who supplied the National Fruit Product Company will receive additional payments, according to the company, as follows: 20 cents per cwt. for all No. 1 Yorks 2½ inches and up; 15 cents per cwt. for No. 1 apples 2½ inches and up, all varieties other than York; and 10 cents per cwt. for No. 1 apples 2¼ to 2½ inches, all varieties.

The York and larger sized apples, according to National, have greater value

to the processor than other varieties and smaller sizes.

Wide consumer acceptance of processed apple products and a desire on the part of the processors to return to growers an equitable price considering the high production costs prevailing in the area account for the additional payments.

**MICHIGAN, July 15**—Tree fruit prospects appear to be very good, with insects and diseases well under control. Red-banded leaf roller, a major pest in 1949, has been noticeably absent, but curculio has been a problem in some areas.

Harvest for the various fruits continues from seven to 14 days later than in 1949. Southwestern Michigan for the first time in several years will harvest a full crop of red cherries.

Urea sprays, in the form of "Nu-Green," have been used on tree fruits by many growers with good results, reports Dr. A. L. Kenworthy. The cool weather and late spring experienced this year, he states, made soil applications of nitrogen slowly available.

State fruit tours: Northern Michigan, August 4; eastern Michigan, August 9; and Ionia fruit area, August 17. Concentrate spraying, nutritional studies, soil management, and pruning will be subjects of interest.—*Arthur Mitchell, East Lansing.*

**WASHINGTON**—Horace E. Smith of Omak, engineer, fruit grower, and chairman of the Washington State Apple Commission, died recently at the age of 64.

Elected to the commission as a grower representative—membership of the commission is divided among growers and shippers—Mr. Smith had served about

one and one-half years of a three-year term.

Much of the legislation necessary for Columbia Basin development was passed during the 12 years Mr. Smith served as state senator.

**FLORIDA**—Organized a year ago, the Florida Citrus Mutual now has 8,600 members who control more than 90 per cent of the state's citrus crop. Membership in the big co-op is confined to growers. Fifty-four canners and concentrators, 234 packing houses, and 222 independent cash buyers are contracted to Mutual to handle fruit produced by its members.—*Clyde Beale, Ext. Edr., Gainesville.*

**ILLINOIS**—Down near the Ohio river, in Pulaski County, near Villa Ridge, a section of farming area is gradually evolving into a picture that would particularly interest fruit growers. Strawberries and raspberries already abound, and fruit trees will be or are being planted.

The changeover is being wrought by Professor R. L. McMunn who after a quarter century of service in the University of Illinois department of horticulture has resigned to go into the fruit growing business with his son.

Professor McMunn (familiarily known as "Mac") is a nationally recognized authority on tree fruits and has conducted much research on the origin and nomenclature of tree fruit varieties for the American Pomological Society.

**WEST VIRGINIA**—Armistead S. Lucas of Shepardstown, prominent cherry grower of the Cumberland-Shenandoah area, passed away recently at the age of 74. He was a director of the Shenandoah Cherry Growers Association and a member of the West Virginia State Horticultural Society.



With this portable elevator, two men loaded boxes of apples into trucks in the Hampshire Hills Farms Orchards in Wilton, N. H., last season faster than four men without it. Made by Bill Whiting, manager, the endless belt conveyor is powered by a small air-cooled engine and mounted on a pair of automobile wheels. The elevator can be projected into the truck while loading the front end, thus reducing the distance the fruit has to be carried.—*E. J. Rasmussen, Ext. Hort., Durham, N. H.*

AMERICAN FRUIT GROWER

# Korean Campaign Will Have Important Effect on Fruit Industry

By LARSTON D. FARRAR

Washington Correspondent, American Fruit Grower

THE KOREAN WAR—informed sources here long ago quit referring to it as a "police action"—will be the most important factor in the fruit industry this year, unless the Soviet leaders start one or more "skirmish wars" on other fronts, a possibility never to be ignored.

As everybody here knew as early as July 1, it was evident that a war economy, grafted onto a burgeoning peacetime boom, would bring higher prices. But few realized at first just how much prices in many consumer lines would jump.

Fruit prices firmed up, as did those of many another commodity. The problem, in time, will be to try to get fair prices to be allowed by whatever OPA substitute is set up.

Pressure already is building up for return of price control, rent control, and all the other controls that plagued business in World War II. Congress is not going to give in to this pressure at once, but if the inflationary picture begins to look darker, there will be stiff price controls.

## Problems Will Arise

A number of other problems that sound like World War II will be rising to plague fruit industry men as time passes, unless a miracle occurs and the U. S. and Russia find a formula for living together in peace.

Manpower problems will be No. 1 in the orchards. With the draft beginning to work again, with war plants being taken out of mothballs, and with business booming as never before, it will be hard to keep 'em down on the farm.

Sooner or later, considering the steel shortage, there will be machinery and parts headaches. None of these things will show up tomorrow, or next week, but if the international tension grows, they will become inevitable.

Shortages of every kind may be expected in the long haul. The men with foresight will prepare, as they can, for eventualities. They will not bid up the price on something they do not or will not need, for in so doing they would be compounding their own troubles in the future.

None of this takes into account the greatest tragedy of all in a war—the loss of precious American lives.

Congressmen, who wanted to go home early, likely are still in session because of the Korean War and its aftermath. Aside from appropriat-

ing money, however, there isn't much for Congress to do, unless the economic situation becomes so explosive that controls must be imposed. The President and his Cabinet already have the power to act in emergencies—in general.

The new Social Security legislation, the most far-reaching domestic measure on which the 81st Congress has so far acted, deserves the study of every person in the fruit industry. A lot of growers are going to have to start keeping records for Uncle Sam and collecting SS taxes for him.

The Magnuson Amendment, which would have made it possible for the Secretary of Agriculture to recommend to the President that certain commodities not be imported in case of domestic surpluses, lost out after a bitter Senate battle. Vice-President Alben Barkley decided the issue by casting his vote, in effect, against the amendment. He comes down from the rostrum and votes only in case of a tie.

In general, the Department of Agriculture budget requests emerged as large as ever from the "economy minded" Senate and House of Representatives. Since no more than a third of either the House or the Senate really seems to care what happens to tax money, this was about what trained observers expected.

## Growers Are Better Prepared

If K-Day (when President Truman decided to ignore the advice of Secretary of State Dean Acheson to "write off" Korea) was the beginning of World War III, as many observers here felt was the case, then American orchardists are entering the new conflict much better prepared than they were for World War II.

The late war was a testing time for growers. Many of them were not as mechanized and motorized in 1940 as they are today, and few could remember, even dimly, the mild experience of World War I.

This emergency—and it is an emergency whether there is to be a general war or not—finds growers better able to bear their burdens. They are more strongly organized, the means of communication between the grower and Washington are much better than ever, and fruit growers, of all the different farming classes, have kept themselves more liquid financially.

## IN THE NEWS

THOMAS A. FARRELL



T. A. Farrell

New president of Dearborn Motors Corp. is Thomas A. Farrell, who succeeds the late Frank R. Pierce. Since the organization of the company in 1946, Mr. Farrell has been vice-president and member of the board of directors and has been active in the expansion of the firm which is now erecting a \$3 million headquarters plant near Birmingham, Mich. He was formerly associated with the Hyatt Bearings and Frigidaire divisions of General Motors and with Kelvinator.

JOHN B. PETERS



J. B. Peters

Recipient of the National Apple Institute's annual award as "the man who contributed most to the apple industry for the year of 1950" was John B. Peters. A prominent Pennsylvania fruit grower and vice-president in charge of procurement for Knouse Foods Cooperative, Mr. Peters was cited for "outstanding leadership and service." He is a member of the executive committee of the National Cherry Institute and of the Pennsylvania Organization of Agricultural Cooperatives and president of the Cooperative Fruit Growers of Adams County, Pennsylvania.

C. V. SCHAEFER, JR.



C. V. Schaefer, Jr.

The Friend Mfg. Co. recently announced a change in its active management with the election of S. J. Childs as president and C. V. Schaefer, Jr., formerly with the DeLaval Steam Turbine Co., as vice-president. In announcing these new appointments, Maynard G. Hess, chairman of the board, said that both administrative policies and manufacturing procedures will be revitalized through the application of the extensive experience and abilities of these men.

DONALD WYMAN



Donald Wyman

Dr. Donald Wyman, horticulturist of the Arnold Arboretum of Harvard University, was recently presented with the first Norman Jay Colman award at the 75th anniversary of the American Association of Nurserymen. The award, made for "horticultural progress through research," was specifically granted for Dr. Wyman's book, *Shrubs and Vines for American Gardens*. A widely known author on horticultural subjects, Dr. Wyman is editor of *Arnoldia* and has written several books and numerous articles on ornamental horticulture.

## MARKETING

**CANNER CARRYOVER** of canned red cherries on July 1 was only 30,-332 actual cases, but the large crop forecast this season of 145,000 tons lowered prices to growers. Coming to the rescue, the USDA offered to purchase 500,000 cases of canned cherries and further stipulated that processors who sell cherries to the USDA under this program will be required to pay growers not less than seven cents a pound for fresh cherries delivered to the cannery.

**MOST POPULAR** apple in 30 Pittsburgh stores is the Delicious variety, a survey recently revealed. Thirty-six per cent of all apples sold were Delicious, 23 per cent were eastern-grown McIntosh, and 15 per cent were Rome Beauty.

**SUPPLY** of fruits during August will be lower than last year and a little below average with the result that higher prices for fruit are expected this month, many observers believe. Growers are cautioned against jumping the gun and marketing small sizes that will later on slow up sales of good fruit.

**VENDING MACHINE** business has boomed since the war and there is a gradual awakening of the possibility of selling fruits and fruit juices through these automatic machines. The Fruit-O-Matic is an automatic fruit vending machine which was first envisioned by Jack H. Oatey, a Washington fruit grower. It is now being sold by the Fruit-O-Matic Mfg. Co., 5225 Wilshire Blvd., Los Angeles, Calif., and is being tried out by growers and others in large market areas. In 1949 there were 347,000 candy dispensing machines which sold 2½ billion bars and 410,000 bottle dispensing machines which sold 3 4/5 billion bottles. In addition 15,000 cup dispensing machines sold 600 million drinks.

**NATIONAL PEACH** Council's July 20th report indicates a commercial crop this year of nearly 48 million bushels, seven million bushels under the July 1st crop report of USDA. Although the total crop is small, substantial supplies of peaches are forecast for August from middle Atlantic states. In September, Ohio, Michigan and New York are expected to market an amount close to last year's abundant production. On August 1, the Peach Council held a trade contact meeting in Philadelphia.

## EAST OF THE CASCADES

(Continued from page 13)

natchee. He hauled apples in hand-made wooden boxes nearly a hundred miles, by horse and wagon, to miners' camps in the high Cascades.

Conrad Rose, who built up the famous Produce Company empire, planted large orchard tracts and shipped the first carload of apples in 1902.

Ten years later, E. Wagner, pioneer bridge builder and orchardist, loaded several thousand boxes of his apples on a steamer and headed for New Zealand, where he sold them at a big profit, and launched the export deal.

On a later trip, Mrs. Wagner, who is a native of New Zealand, observed the springtime festivals of the land down under. She brought the idea back to Wenatchee and it grew into the huge annual apple blossom festival, one of the largest community celebrations in the nation.

In mid-June of 1950, Mrs. Wagner, who is 75 years old, returned by plane from her twentieth visit to her native New Zealand.

### Horticultural Leaders

Throughout the fruit-growing valleys of Washington state, there are many horticultural leaders, nationally recognized for their efforts on behalf of the industry.

Grady Auvil, Orondo orchardist, is one. His story has been told before in *AMERICAN FRUIT GROWER*. Cecil Clark of Wapato in the Lower Yakima Valley is another. In the June issue of *AMERICAN FRUIT GROWER*, he told of his success with sprinkler irrigation.

Other leaders, and the list could be very long, are Jim Wade, operator of 600 acres in the Okanogan Valley . . . Myron Foster of Wenatchee, American Fruit Grower company executive in the area for many years and developer of the well-known Hesperian gift box business . . . H. Rodgers Hamilton of Okanogan, state horticultural count, president a year ago and a member of the board of regents of Washington State College.

In the Yakima area some of the men who make the fruit world go around are Elon Gilbert, who operates the pioneer firm of Richey and Gilbert, and industry leaders J. Walter Hebert and Reuben Benz.

### Scientific Fruit Growing

The Washington state fruit industry has led the nation in many phases of production, shipping, and marketing. Irrigation of fruit orchards has become an exact science in this area.

Chemical thinning of apple blossoms, spark-plugged by Dr. L. P. Batjer of the Wenatchee laboratory of

the U.S. Department of Agriculture, has been pioneered in these areas and 12,000 acres of apple trees were treated in the spring of 1950.

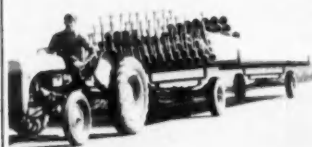
The western wooden box was standardized in these districts, and every grower's son spent most of his vacation nailing boxes before the advent of box-making machines.

The Washington State Apple Advertising Commission, now 12 years old, pioneered this type of industry promotion for apples, and now the Washington State Fruit Commission does the same thing for cherries, peaches, apricots, prunes, and pears.

Washington state has led the battle for better tolerances on apples sprayed with pest-killers, and the new wonder chemicals—DDT and parathion—have revolutionized bug-fighting in these sections.

It hasn't been all a bed of roses and sweet apple cider by any means.

### HANDY ANDY



Built in the farm workshop of Viking Ramsing, Nuevo, Calif., this special trailer has a 20-foot wheel base for transporting aluminum irrigation pipe.—Hi Sibley.

Tremendously high freight rates have made it necessary for Washington growers, who produce just about a third of the nation's total apple crop, to grow and market only prime fruit. Freight costs per box often exceed all growing costs up to harvest, and the growers long ago learned that they could not exist unless they shipped good apples only. The same situation, of course, applies to the other fruits grown in the state.

The West has lagged behind other areas in the field of processing, because the prices were better for high-quality fruit on the fresh markets. But a good processing setup is needed and industry leaders are already working toward that goal.

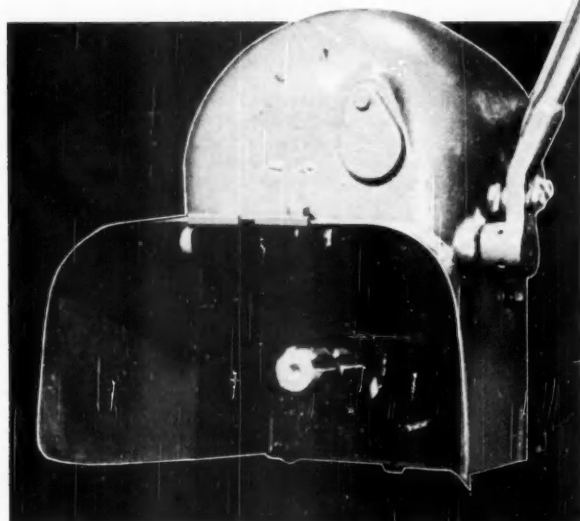
Yes, there is color contrast and hard work and excitement in growing fruit in the vast area "East of the Cascades." And the men who are in the business . . . in good years or bad . . . wouldn't trade places with anyone.



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no slow-ups...  
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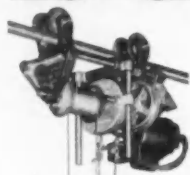
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## PREPACKAGING CREATES "PLUS" SALES

(Continued from page 10)

of this type of tie is that it can be easily removed, a spoiled apple replaced, and the bag retied.

### Price Advantage

The 40-pound carton brought \$2. A 40-pound jumble pack of the same apples sold for \$1.40 on the same market. The 60-cent difference was not all profit, however, for it costs more to pack in bags than to fill a bushel basket or box. However, Mason McConnell, who handles the marketing, says prepackaged fruit netted them about 20 cents per carton more than the jumble-packed box. In other words, it cost about 40 cents more per 40-pound carton to prepackage than to pack in conventional containers.

Price was not the only advantage McConnells discovered about consumer packages. They were able to move a lot more apples, and quickly. Mason and his buyer estimated they sold twice or three times as many apples in consumer units than they would otherwise have sold.

A few miles from McConnells lies the Quick Orchard, operated by Tom Quick. Tom sells most of his fruit in Akron, that is, what he doesn't sell at his roadside market. Like his neighbor, Tom became interested in ways to speed up apple sales last fall. He talked the idea over with his Akron buyer, another retail chain.

They, too, decided to try the plio-film bag.

Tom wanted to keep watch over his apples as long as possible, so agreement was made for him to deliver direct to retail stores in Akron, bypassing the central warehouse. He began supplying four big stores and later added three more to his route. Eight five-pound bags or 10 four-pound bags were packed to a carton.

Rapid increase in apple sales accompanied the Quick adventure just as it did McConnell's. Into seven Akron stores he poured as high as 400 cartons a week. At the beginning of the season, Tom received \$1.52 per 40-pound carton. The high mark of the season was \$2.60. Apples in conventional containers hardly reached the \$2 mark. Packing was done by hand at the grader. Four men put up as high as 75 cartons—600 bags—per day.

Red and Golden Delicious moved better in four-pound than in five-pound bags. A few apples were sold in three-pound bags but this size proved too small. Other varieties packed included Jonathan, McIntosh,

and Stayman. Tom is also convinced that the bag is a fancy pack and that only the very best fruit should go into it.

An advantage in delivering direct to retail stores Tom found was that he could pick up his master cartons and use them over and over again. This helps cut packaging costs. Each bag was stamped on the outside with the Quick Orchard name, variety, size, and grade, and later in the store the price per bag. They were tied in the same manner as at the McConnell orchard. Tom figured he had a cost of five cents per bag, filled and stamped. About half of the cost is for the bag, the remainder for labor and stamp.

Last year the Quick Orchard sold 25,000 bags of apples. Tom thinks the idea sound and is laying plans to develop it further this year if market conditions make it worth while.

Down along the Ohio River near Little Hocking, in Washington County, Holdren Orchards packed some 3,000 bushels in four-pound plio-film bags last season. They tried selling them through the wholesale firm which ordinarily handled their fruit in baskets and boxes. But this method of selling proved unsatisfactory. It was difficult for the wholesaler to move the bagged apples into retail stores. A more satisfactory method had to be found for this type of package.

The Holdrens, a father and son partnership, made arrangements directly with a large retail firm in Columbus and bagged apple sales picked up immediately in the Holdren packing house.

### Comparing Costs

Some preliminary comparisons of packing methods and costs were made by the Holdrens. Bags were filled by hand, using three men filling and two stapling the top shut with their label folded over. Two others helped move apples into the packing room and the filled cartons out. These seven men could pack 200 bushels of bagged apples a day. When packing in bushel baskets right off the grader, a crew of 12 or 13 could pack 800 bushels in a day. Thus, time and labor requirement per bushel for consumer packaging is about twice that for conventional containers, and this, of course, just about doubles the packing cost per bushel.

One of the big bottlenecks in packing in bags, the Holdrens discovered, is the process of filling and handling.

If the 1950 market season promotes this type of package they plan to invest in an automatic filling device. This would probably reduce packing costs also.

John G. McConnell, a western Ohio grower near Elida, sold 10,000 plioilm bags of apples last season. He started with Wealthy in September and continued right through the season as varieties matured. Lima is his big market center.

At the the start of his apple marketing season, John McConnell was selling in Lima stores only two or three bushels a week from his 40-acre orchard. He started bagging a few and within a couple of weeks he had more than doubled his sales in these stores and had spread his bagged apples to others.

John put only the very best quality in bags. Most of the apples graded 2½ inches or better. Some 2¼-inch Jonathans were bagged and they moved very well at a slightly reduced price. John received 25 cents a bag for them and stores sold them at 31 or 32 cents. Larger sizes brought 30 to 35 cents per bag and retailed at 39 cents.

John likes to relate the experience of one Lima retailer. He saw how well the bagged apples were moving, so decided to get some bags and apples and do it himself. He bought cheap apples at bargain prices and bagged and stacked them on his display counter. A few sold, then practically none moved. He lost money on the deal. Later he bought some of McConnell's fancy fruit in bags and put them on the same display stand. They sold the first day and kept right on selling. Here was proof that quality is a key to consumer package success.

#### A Fancy Pack

In southwestern Ohio near Xenia, J. B. Lane of Orchard Lane Fruit Farm packed some of his 1949 crop in four-pound plioilm bags. This orchard is noted for the fine fruit that comes from its 50 neatly kept acres. Mr. Lane considers the transparent bag a fancy pack and he is particular which stores buy his bagged fruit.

Though only 3,000 bags were packaged at this orchard last season, J. B. feels it will become a part of his regular merchandizing program. He delivers many of his apples direct to retail stores and thus has control over their handling almost until Mrs. Consumer buys them. With this close contact with merchant and consumer, it is possible to study the development and make improvements on methods quickly.

Mr. Lane is variety conscious and

interested in making his store displays as attractive as possible. At the beginning of the season he sold Grimes Golden and Jonathan to grocers. These red and yellow apples made a very colorful display which attracted many customers who otherwise might not have made apple purchases. Later, Golden Delicious and Stayman were placed together. Still later, the varieties Turley and Red Rome were used in bags, though no yellow variety was available.

Grocers who were selling two and three bushels a week moved their apple sales up to eight or 10 bushels a week. Mr. Lane feels it is important what goes on the label, which should be attractive, too. It should tell the consumer the variety and grade. It is one of the best ways the grower has to promote his own product, for it carries his name right into the home of the consumers. If they are satisfied, they can return to their grocers and ask for more of the same product.

#### Reducing Costs

From the grower's standpoint, reduction in cost of the packaging operation is one of the urgent problems in consumer packaging. American Fruit Growers, Inc., has done a lot of packaging and their Blue Goose brand is known the world over. Last season this firm packed over a million and a half bags of apples. They used a new type of plioilm bag holding five pounds with an elastic top which snaps back into shape after filling. Filling was done with automatic filling heads attached to graders, and some hand or semiautomatic filling was also done. As many as 350 bags per hour were filled with the automatic fillers.

American Fruit Growers, Inc., compared the cost of packing 40 pounds of apples in various ways at their Hagerstown, Md., plant. The results were as follows:

Bushel basket—export tub.....	\$0.75
Eastern ⅛ bushel, panel end	
box faced and filled.....	0.8113
Tray-Pak in wirebound crates	0.8622
Snap-top bags, eight 5-pound	
bags in 300-test corrugated	
master carton.....	1.11

Thus, even on large commercial scale the cost of consumer packaging is still higher than conventional methods. However, apples move more quickly and are handled more carefully. Consequently retailers' losses are greatly reduced. Also, the added cost may be more than offset by the increased number of apples that can be sold from a 40-pound container. The next few years will answer this and many other questions about prepackaging.

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## FEEDING AND WATERING ORCHARD SOILS

(Continued from page 15)

the sprinkler system at high concentrations, the sprinklers should be run sufficiently long after the application to wash the material from the plants to prevent burning of the leaves.

### Distribution of Fertilizer in the Soil

The distribution of fertilizers in the soil profile depends on the type of fertilizer used. The nitrates are completely soluble in the soil solution and can be easily leached below the root system of the shallow-rooted plants by excessive amounts of irrigation water.

The ammonia is fixed in the surface few inches of soil when applied in the irrigation water. Experiments in furrow irrigation on very sandy soil with an application of 100 pounds of nitrogen indicate about 60 per cent ammonia is fixed in the surface two inches and the other 40 per cent in the next two inches of soil. In heavier soils, the fixation would be closer to the surface than in sandy soils.

Ammonia fertilizers are not readily leached from the soil by excessive irrigation. However, under favorable conditions of moisture and temperature, the nitrifying bacteria will change ammonia to nitrate which can be readily leached to a lower depth. When 100 pounds of nitrogen as ammonia was applied in furrow irrigation, it was found that the periphery of the furrow contains 175 parts per million of ammonia. Maintaining favorable moisture conditions by frequent irrigation, all the ammonia was changed to the nitrate form and leached from the surface soil three weeks after application.

Studies are being made to determine the effectiveness of fertilizing in the irrigation water as compared to use of dry materials. Some preliminary results indicate yield may be increased as effectively by applying the fertilizer in the irrigation water as in the dry form.

### Salt Accumulation in Soils May Prove Toxic

The effects of residual fertilizer salts applied in the irrigation water are of minor importance when compared to the salts occurring normally in many waters.

Irrigation waters from snow-fed mountain streams or areas of high rainfall contain very little salt—usually 100 to 500 pounds of salt per acre-foot of water (one acre-foot is an acre covered one foot in depth with water). As these relatively pure waters are used for irrigation, some

return flow from the irrigated lands and drainage water are returned to the river with increased salt concentration. In some cases this contamination of salts increases progressively as the river moves down to the lower reaches of the valley.

In California, large areas obtain their entire irrigation water supply from wells or underground sources. These waters contain minerals in varying proportions, depending upon the type of material through which the water percolates.

If the minerals dissolved are in the form of calcium and magnesium salts, the water is known as "hard water" in which common soaps do not form suds readily. This type of water is usually considered good for irrigation purposes as rarely do the calcium and magnesium salts reach a concentration toxic to plants.

On the other hand, "soft water" may come from either of two sources: (1) rain water, containing very few minerals, which usually includes runoff waters from melting snows, or excessive rains which have not had sufficient contact with the soil or rocks to dissolve appreciable quantities of minerals; and (2) water containing a high percentage of sodium salts.

These salts may reach a concentration toxic to plants; but even at low concentrations they cause a deterioration of the soil structure and with their continued use the surface soil will seal and prevent the wetting of deeper layers. When sodium salts in the form of chlorides (common table salt) and sulfates (glauber salts) accumulate in excessive amounts in the soil, they are known as white alkali.

The accumulation of sodium carbonate or bicarbonate (soda ash) forms black alkali. Small quantities of these salts are much more toxic to plants than white alkali salts.

**Only when large quantities of bruise-free, firm, and crisp apples can be found by retail consumers day after day will it be possible to determine the "real" consumer demand for apples.—M. P. Rasmussen, Marketing Specialist, Cornell University**

White alkali is easily detected by the accumulation of white or gray salts on the soil surface.

The beginning of a black alkali soil is not easily recognized even though the sodium carbonate salts have produced a deteriorated soil structure with a reduction in rate of water penetration. This condition can be caused by a much lower concentration of salts than usually oc-

curs in the formation of white alkali soil.

The evaluation of an irrigation water is based on the principle of salt accumulation. Water sufficiently high in salts to be directly injurious to plants is seldom used for irrigation; but the accumulation of these salts in the soil solution sometimes reaches a concentration that is detrimental to the plant or soil structure.

This concentration of the salts in the soil is due principally to two factors: first, direct evaporation of the water from the soil surface, and second, the water is lost from the soil through transpiration of the plant. The plants use water but leave most of the salts in the soil which accumulate with each succeeding irrigation.

#### **Irrigation Water Is Analyzed and Classified**

Irrigation water has been divided into three broad classes: (1) excellent to good; (2) intermediate class—possibly harmful under certain conditions; and (3) probably harm-

**The Northern Nut Growers' Association annual meeting will be held at Pleasant Valley and Poughkeepsie, N. Y., August 28-30, 1950.—J. C. McDaniel, Sec'y, State Capital, Nashville 3, Tenn.**

ful over a long period of use unless certain precautions are observed.

A number of factors are taken into consideration in classifying water in these three classes, one being the total salt content. If calcium and magnesium predominate, a first-class water may contain up to a ton of salt per acre-foot, a second class water between one and three tons, and those waters above three tons are usually placed in third class.

Being an element toxic to plants, limits are set for chlorides in each class of water. Standards are also established for an allowable percentage of sodium. Boron is another critical element for which standards have been established. Under certain conditions, one to two parts per million may be deleterious to certain crops. Boron is an element essential to plant growth; in humid regions, sometimes a deficiency of this element occurs, but in many of the California waters there is an excess.

To evaluate an irrigation water for classification, it is usually necessary to analyze for eight to nine constituents. This analysis usually includes boron, calcium, magnesium, sodium, chloride, carbonate, bicarbonate, sulfate, and sometimes potassium and nitrate. The quality of the irrigation water is assuming greater importance to both the grower and the research worker in the western states.

AUGUST, 1950



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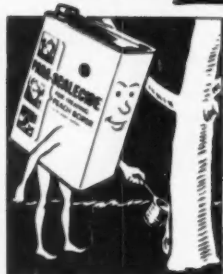
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From where I sit ... *by* Joe Marsh

## There it Was— Right in The Middle!

Easy Roberts mowed his lawn early last Saturday. Then he sat on the porch, and watched Handy Peterson cutting *his* grass.

The Roberts' property and the Peterson's border each other—with no hedge or fence between them. So, when Easy notices Handy had left about a four-foot strip unmowed along the boundary, he walks over and asks why.

"That's *your* land," says Handy. "Mine ends here. See, it lines up with that oak tree across the road!" Easy didn't think so, so they went up and down looking

for the surveyor's marker. Where did they find it? Right in the middle of their "no man's land!"

Well, they both grin and take turns finishing the job and then retreat to Easy's for a friendly glass of beer together. From where I sit, a little searching around for the truth of the matter often shows that the other fellow is as much right as you are—at which point the whole thing doesn't seem as important anyway.

*Joe Marsh*

# NEW FOR YOU

## Demonstration Unit



Caterpillar mobile units are now touring the country to demonstrate the use of their new tool bars with integrally mounted tillage tools on Diesel D4 tractors. Employing a Martin "Carryhaul" trailer, housing a D4 tractor and seven tool bar arrangements consisting of subsoiler, chisels, spring tooth cultivator, spring shank harrow, ditcher, disk ridger, and lister or middle lister, a three-man team demonstrates the various attachments at a scheduled time and place. Two units, one for the East and one for the West, left the home office in Peoria, Ill., in March and are covering an eight-month itinerary.

## Power Pruner



One man can do the work of three or four when using the Henry 500 Power Pruner, according to the manufacturer, the J. T. Henry Mfg. Co., Hamden, Conn. Operating on air pressure of from 115 to 125 pounds at 25 strokes per minute, the 500 will cut close to the trunk and will prune branches up to two inches in diameter.

## Lower Handling Costs



Moving fruit from the orchard to the cold storage, quickly and economically, can be accomplished by using an industrial truck attachment for battery-operated trucks. Using the attachment, developed by the Automatic Transportation



- HENRY 500
- TRACTOR CATALOG
- TOOL BARS

Co., 149 W. 87th St., Chicago, Ill., the driver can lift, carry, and tier 24 boxes of fruit at one time. In tests made last season it was found that 1,080 boxes of fruit could be handled mechanically every hour, thus effecting a savings of 80 per cent in handling costs.

### Lift-O-Matic



A handy tailgate loader for pickup trucks in the orchard has been developed by the National Lift Co., Waukesha, Wisc. Called the Lift-O-Matic, it has a lifting capacity of 1,000 pounds and is hydraulically powered. According to the manufacturer one man can handle all the loading and delivering and the unit can be raised, held, or lowered while the operator is riding up or down with the load.

### New Tractor Catalog



A new tractor catalog is now available to fruit growers from the Massey-Harris Co., Racine, Wisc. Printed in four colors, the 48-page catalog illustrates and describes the complete Massey-Harris tractor line—24 models in five power sizes. Free copies of this catalog will be supplied by the manufacturer on request.

### "Package Engineering"

In the interest of better packaging, The Hinde & Dauch Paper Co., Sandusky, Ohio, has just published a 24-page, two-color booklet entitled "Package Engineering." Slanted for the user, this is a detailed study of the technical aspects of corrugated box design and construction. It contains many large photographs of scenes from the company's package laboratory, miscellaneous packaging operations, and typical shipping boxes designed for product presentation. Copies of "Package Engineering" are available on request.



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### CROP NEWS!

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**—THE PACKER—**

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GOSHEN CHURN & LADDER, INC.  
Dept. FL Goshen, Indiana

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Fruit!**

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LABOR  
MORE  
PROFITS**

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## IS AN OLD STRAWBERRY BED WORTH CROPPING?

COMMERCIAL strawberry growers who employ many pickers have found that the pickers prefer to work in young strawberry beds. And where a grower is competing with his neighboring towns for labor, field conditions, including plants, must be good—or no pickers will be available.

Then, too, the commercial grower usually seeks the big city markets which favor large, fancy berries. Since the fruit tends to run smaller after the first picking season, the berries from an old bed are at a disadvantage on a fancy market.

But how shall the small grower determine whether a bed will produce well for another season?

### Plants Must Be Vigorous

First of all, we have found that a fairly good stand of vigorous plants is a requirement. The field must be fairly free from weeds, especially perennials which are difficult to eradicate. With us in Atlantic County, New Jersey, this means wild white clover and quack grass. But in the absence of these two pests, a reasonable number of annual weeds can be readily handled.

In deciding to hold a bed over, one of two courses can be chosen. One can decide to keep nearly all of the old plants, in which case there will be little or no space for new plants to root and grow, or the old row can be cut down to a narrow strip in the hope that new runners will fill the space.

Since World War I, we have tried both systems. In 1942, we had a two-acre bed which we cut down to nar-

row strips after harvest. The month of August was hot and dry and not many new plants rooted until late in September. By that time it was too late for them to mature and they went into the winter small and weak. The crop was a failure.

The method we now use is to grow the old plants vigorously after harvest and not expect many new plants. First of all, we weed and thin the plants if they have been allowed to set too closely. The best time to do this job is after a soaking rain, when weeds and plants pull easily and when very little damage will result to the plants that remain.

We use a four-prong weeder to pull shallow-rooted plants, and we try to have a uniform stand of plants not closer than four inches apart. Our next step is to grow the plants as large and strong as possible.

### Proper Fertilization Is Important

Fertilization is to be considered, and with strawberries this is very tricky. A too fertile soil sometimes results in too heavy foliage and a poor set of fruit. And lack of fertility gives scanty foliage and small berries.

We find that immediately after harvest is the best and safest time to apply a conservative amount of fertilizer to an old bed. A moderate application of manure, spread thinly and evenly, should be helpful provided it does not carry too many weed seeds. It not only supplies immediate plant food but will tend to hold moisture during the summer and will, in part, serve the purpose of a mulch in winter and spring.

We apply 400 to 500 pounds of a 5-7-10 fertilizer. Care is exercised not to allow any to remain on the leaves overnight as it will dissolve in the first dew and injury will result.

We pick our strawberries in quart boxes and pack and ship in pint boxes. We find that we get more for our berries when shipped in square pint boxes. All our shipments go to the New York City market in our own trucks. We leave our farm at 5:00 P.M. and arrive at the market at 10:00 P.M., in time to see what is going to be ready for sale.

We have never received less than 25 cents a pint box and we pack them in 12-pint slats. Two years ago we packed some berries in 24-pint crates and received only 20 cents a pint. So we know that a large pack is a loss to the grower.—James Shoemaker, New Jersey.



"After looking over our orchard, I feel we'd better do something right away! Let us spray!"

## YOUR FUTURE'S IN THE BAG

(Continued from page 9)

sometimes a serious one, was irregularity in the width of the mouth opening. It was learned that some bags would not open wide enough to work efficiently with any method of filling except to drop the apples in one at a time.

A great deal of research on methods and costs of prepackaging apples was carried out during the past season. Salability and costs of retailing were also studied in three terminal markets. This research was conducted under contract with the Production and Marketing Administration, Marketing Research Branch, under provision of the Research Marketing Act.

A full report of the findings will be made by the U. S. Department of Agriculture in the near future. This report will show efficient methods of bagging apples and ways in which costs might be reduced, in some cases by sizable amounts, by using different materials and methods.

### Retailing Advantages

From a retailing standpoint, advantages of merchandising prepackaged apples include reduced spoilage, reduced labor costs, and greater ease of maintaining displays compared with bulk merchandising.

In all cases on which observations have been made, there has been less

**What is your husband's favorite fruit dessert, Mrs. Fruit Grower? His favorite might become a national one if you shared the recipe with other fruit growers' wives. You can do this by sending it to Home Economics Editor, AMERICAN FRUIT GROWER, 1370 Ontario Street, Cleveland 13, Ohio. We will pay \$1.00 for each fruit recipe published in forthcoming issues.**

spoilage losses on prepackaged apples than on bulk. The observations also showed that, particularly in time waiting on customers, the retail store could save labor.

In building and maintaining the display, it is easier for the clerks to handle the apples that have been prepackaged. Therefore, displays are much more apt to have the fruit rotated as new supplies are brought out.

Particularly during rush hours, produce clerks nearly always just dump the new supplies on top of the remaining bulk display. With prepackaged apples, it apparently was easier to move the remaining bags on display to the front and place the new supplies to the back.

These advantages of retailing, backed up by the indications that consumers in some markets and stores are beginning to prefer prepackaged merchandise, show that we have plenty of evidence that the trend toward prepackaging will continue. It does not, however, prove that prepackaging will be done at shipping point.

### Shipping Point Advantages

Prepackaging at shipping point has many advantages. A few of the important ones are that it can save rehandling of fruit; keeps the growers and packers interested in the brand, helping to maintain quality; tends to eliminate packing and shipping of poorer fruit which is less able to stand freight costs; evens out the labor in the winter time; and has the possibility of eventually speeding up the packing house operations.

Prepackaging at terminal point also has its advantages. It is easier for buyers to regulate their supplies on short notice; the supply of prepackaged apples may be regulated more quickly to what is needed; and a final check as to quality of fruit close to time of sale can be given.

In prepackaging operations that have been observed both in the terminal markets and in the shipping points, there has been a definite cost advantage to prepackaging at shipping point. While this advantage might be partly offset by retailers or terminal market packagers packaging apples during workers' spare time, it might be questioned whether spare-time operations could constantly give a sustained volume of prepackaged fruit. (It is easy for the "spare" time to become part of the regular routine.)

A way to reduce the costs of terminal market prepackaging would be to ship the bulk fruit to the market in some kind of returnable containers. No satisfactory method of doing this has yet been developed. Bulk shipments may make it more difficult to maintain control over the quality of the fruit being shipped so that in the long run poor industry practices will be encouraged.

Shipping point packaging is also a means of offering prepackaged apples to all buyers whether they are small chains or individual stores who buy through jobbers. Many retail organizations may not be large enough to set up efficient prepackaging lines of their own. Shipping point prepackaging of apples may thereby be a means of equalizing the opportunities of retailers in terminal markets.

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AMAZING OFFER—\$40 IN YOURS FOR SELLING only 50 boxes Christmas cards. And this can be done in a single day. Free samples. Other leading boxes on approval. Many surprise items. No experience needed. Free samples personalized Christmas cards, stationery, napkins. Write today. It costs nothing to try. CHERPIL CARD CO., 1543 White Plains, New York.

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CIDER PRESS—MOUNT GILEAD 10" RAM—42" Racks—Complete with elevator, grater, gas engine, line shaft, pulleys, etc. Reasonable Price. C. K. OPPENHEIM, Birmingham, Ohio.

FOR SALE: CIDER PRESSES NEW AND REBUILT all sizes. Parsnips and other makes; Apple Raisers and Apple Butter Equipment. W. G. BUNKLER, MA CHINERY CO., 185 Oakland St., Trenton, New Jersey. MOUNT GILEAD HYDRAULIC CIDER PRESS, 17 in. tank. Good condition. \$125.00. YOUNG'S ORCHARD, Route 4, Springfield, Mo.

### EARTHWORM CULTURE

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FARMERS! Home Owners! Save dollars on Fence, Paint, Building Materials, Appliances, Farm Equipment, Hardware, Curbings, Plumbing, etc. All in the new Jim Brown Catalog. Packed with over 15,000 outstanding values! Over 61 Years in Business! Write today for Your FREE Catalog. BROWN FENCE AND WIRE DIVISION, Dept. J4, Cleveland 3, Ohio.

NIAGARA GRADER—COMPLETE WITH BRUSHES, 3 sizing chains and belts. New motors, benches, tables, etc. Up to 1000 bushels capacity. Reasonable. BOY-FINGER FRUIT FARMS, RD 3, Port Clinton, Ohio. DEAN WIPER—CUTLER GRADER—CUTLER WASHER. FRED MERRILL, Route 4, St. Joseph, Mo.

GARDEN TRACTORS—McLEAN SPECIAL PRICE \$29.00. Tilling, Plowing, Mowing. UNIVERSAL MFG. CO., 324 West Tenth Street, Indianapolis 2, Indiana.

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LIMITED NUMBER MIXED GEESSE FOR YOUR grass problem at \$5.50 each F.O.B. McCULLOUGH, Keota, Oklahoma.

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WOULD YOU LIKE TO KNOW HOW TO SELL YOUR handmade articles? Write: MARTHA MARTIN'S, 3167-D Redwood Highway South, Santa Rosa, Calif.

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"They ain't had nothin' to fight about since they both agreed the new BFG tractor tire pulls best!"

Farmers who have tried the leading makes of tractor tires agree that the new B. F. Goodrich Power-Curve tires give the most traction. And tests prove it! In hundreds of tests in different types of soil, the tires with Power-Curve cleats outperformed them all. These new tires have the proven open-center tread with cleats higher in the center than

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An advertisement of The B. F. Goodrich Company, Akron, Ohio.

## BOOK REVIEWS

● **Viruses and Virus Diseases of Plants** (\$4.00) Burgess Pub. Co., by Melville T. Cook. A review of literature published on the scientific investigations of the virus problem, this is an excellent reference book and is recommended to botanists, plant pathologists, and all those who are interested in the study of plants. Some of the subjects covered are nature and properties of plant viruses, transmission of viruses, and control methods.

● **Hunger Signs in Crops** (\$4.50) *The American Society of Agronomy and the National Fertilizer Association*. Written by leading agricultural scientists in their respective fields, this is a symposium covering nutrient-deficiency symptoms of the various agricultural crops. There is a lengthy discussion of deciduous tree and small fruits, also citrus, with many color illustrations, as well as black and white photographs, showing the symptoms of nutrient deficiencies. Well-organized for ready reference, this book will help to answer many questions regarding soil deficiencies, their symptoms, cause and treatment.

● **Outlines of Food Technology** (\$7.50) Reinhold Pub. Co., by Harry W. von Loescke. Written by a USDA chemist, this book covers the latest advances in handling raw materials, processing, equipment, machinery, packaging, preserving, storing, and marketing all types of foods and food products; and there is much useful information pertaining to fruits and their by-products.

Orders for books on fruit growing and allied subjects may be sent to AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland 13, Ohio, with check or money order enclosed.

WINES—MAKE YOUR OWN FROM GRAPES—Raisins—Berries—Oranges—Dandelion, etc. Easy home method. Printed directions. 25c coin. OZARK ENTER-PRIZE, Coit 16, Mo.

\$600.00 BUILDS COZY 4 ROOMS AND BATH. Concrete block. Stuccoed. Complete instructions \$1.00. SAGINAW REALTY AGENCY, Box 992, Saginaw, Mich.

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### POULTRY

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AMERICAN FRUIT GROWER



## FLORIDA LEADS THE WAY WITH MESH BAGS

(Continued from page 14)

purchased, say the marketing experts.

Popularity of the eight-pound bag of oranges is indicated by the following figures from the Florida Citrus Inspection Bureau for the last four seasons:

Total number of boxes of oranges put up in 8-lb. mesh bags, 1945-46 through 1948-49.	
Season	Boxes
1945-46	2,370,947
1946-47	3,226,672
1947-48	4,431,163
1948-49	3,742,887

The closest competitor to the eight-pound bag for the first three of these seasons was the four-fifths bushel bag, 767,570 boxes being packed in this size unit in 1945-46; 487,850 in 1946-47; and 394,573 in 1947-48. In the 1948-49 season the five-pound bag was second in popularity, shading the four-fifths bushel bag by about 50,000 boxes, or 367,441 boxes of the five-pound bag compared with 312,728 boxes of the large bag.

While grapefruit is bagged to some extent, most of the citrus put up in

mesh bags consists of oranges. Cost of packing and selling oranges in eight-pound bags is less on a per box basis than the cost of wrapping, packing, and selling a standard box; but it is slightly higher than packing and selling the same box of unwrapped fruit. And packing and selling the four-fifths bushel bag costs considerably less than packing and selling the eight-pound bag.

Cost figures for the 1947-48 season for the various units on a per box basis were:

8-lb. bag	\$1.02
4/5-bu. bag	.71
1 3/5-bu. box, wrapped	1.14
1 3/5-bu. box, unwrapped	1.01
1 3/5-bu. Bruce box	.84

Most of the bagged Florida citrus is shipped by rail or truck in bulk. Where master containers are used, 10 of the eight-pound bags are packed in each container. Master containers are used to far greater extent in Texas than in Florida and a cost survey conducted in that state in 1947-48 showed that the use of the master container increased by about 43 cents the total cost of packing and selling eight-pound bags, or a per box total of \$1.45 where the master container was employed compared with \$1.02 for the bulk eight-pound bags.

Studies have indicated that consumers who prefer to buy citrus in bags do so because it is more convenient, more economical, or because the fruit seems to be of higher quality than the bulk.

In a survey conducted in a Kentucky community, the U. S. Department of Agriculture found that a majority of the consumers queried preferred buying oranges and grapefruit in bulk for the reason that they could see and examine the fruit and could be sure of its quality and size, and could buy just the amount they wanted.

Those who preferred the bags liked them for the reasons stated earlier, indicating clearly that quality is vitally important in further establishing the consumer size package as a unit of purchase. Housewives in this community who preferred the bagged fruit favored the eight-pound size.

"It seems logical and practical," says Dr. Henry G. Hamilton, University of Florida marketing authority, "that grocery stores and other establishments that sell citrus should offer bagged and bulk fruit to their customers. With preferences for both bagged and bulk fruit, the dealer who is out to satisfy his customers and also to enjoy maximum sales will have both kinds available for his customers."



RED APPLE

### FRUIT PICKING BAG

This Bag is designed to save fruit, holds one bushel and is comfortable on the picker. With its wide padded metal top rim, specially designed rope side fasteners, wide shoulder strap and spring tension back, this Bag far surpasses any bag on the market today. See your nearest Dealer or write us for prices.

Mfg. by

**R. K. Canas & Shade Co.**  
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### KITCHENEAT

#### Half Bushel Boxes

Face & fill. No pressure on full face in stacking. The perfect gift box or reusable delivery package for fresh fruit or sliced potatoes in plastic bags. Franchise territory available for Kitcheneat Process sliced potatoes or apples (no spoilage or browning). Write:

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Our fruit trees... APPLES, PEARS, CHERRIES, PLUMS, PEACHES... are sturdy, northern grown stock. They are guaranteed to grow and bear fruit early. We are one of the largest growers of Fruit Trees and supply Quality True-To-Name Trees at fair prices. Satisfaction Guaranteed.

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### Evergreen Lining-Out Stock TRANSPLANTS and SEEDLINGS

Pine, Spruce, Fir, Canadian Hemlock, Arborvitae, in variety. For growing Christmas trees. Windbreaks. Hedges. Forestry. Ornamentals. Prices low as 2¢ each on quantity orders. Write for prices list. **SUNCREST EVERGREEN NURSERIES**, Dept. AFG, Box 842, Johnstown, Penn.



### The AP-PEACH PICKING BAG

Saves Time—Reduces Bruising Heavy canvas over rigid frame protects fruit. Empties quickly through bottom. Especially for peaches and easily bruised apples. Write for folder.

**JOHN C. BACON CORP., GASPORT, N.Y.**

**FRUIT & NUT TREES**  
Tualatin Valley Nurseries  
TUALATIN VALLEY NURSERIES  
SHERWOOD, OREGON

### CERTIFIED CULTIVATED BLUEBERRY PLANTS

Wholesale & Retail  
15 VARIETIES  
Order NOW for Spring or Fall Planting  
**MONROE FARMS**  
Box 555, Browns Mills, N. J.

### OLD HOME PEAR (blight resistant)

Now for the first time available in quantity lots at reduced prices. Also a complete line of fruit trees and small fruit plants all of which are Northern grown. Buy direct from a grower and save. Write for our free catalogue.

**CHAMPION NURSERIES**  
150 MAIN STREET PERRY, OHIO

### PEACH APPLE TREES LOWAS 20¢

Pears, plums, cherries, nut varieties, etc. Grapes (lb. Shrub), evergreens, shade trees 25¢ up. High grade quality stock cannot be sold lower. Free 40 page color catalog. **TENN. NURSERY CO., Box 4, CLEVELAND, TENN.**

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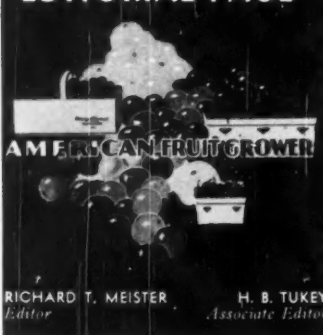
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Easy to use Viscose Home Method. Heals many old leg sores caused by leg congestion, varicose veins, swollen legs and injuries or no cost for trial if it fails to show results in 10 days. Describe your trouble and get a FREE BOOK.  
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## EDITORIAL PAGE



RICHARD T. MEISTER  
Editor

H. B. TUKEY  
Associate Editor

### Survival of the Fittest

THERE ARE healthy signs in the fruit business. They were apparent at the annual gathering of the National Apple Institute at Boston in June. And they are just the opposite of what too many believe Charles Darwin meant when he spoke of the "survival of the fittest."

Because, while it is true that normal competition is healthy and invigorating, it does not need to be in terms of blood, fangs, and arrogant independence. On the contrary, "survival of the fittest" most often means "survival of the co-operators."

Somehow the idea has gotten around that the philosophy of Darwin preached antagonism of the most vicious sort in nature. This is not true. The simple celled creatures succeed best in colonies, as any scientist will testify. The more complex organisms likewise tend to band together. And man is no exception.

As the world becomes smaller, the individual human does best who co-operates with his neighbors. He can no longer do much alone. This is also true in the fruit industry where, gradually, grower by grower, region by region, and commodity by commodity, it becomes more tightly bound together.

Look at the National Red Cherry Institute. Processors and producers sit down at the same table. The nine leading sour cherry states provide excellent leadership. They pool information and ideas. Michigan, the principal producer, pours funds into national advertising by the entire group. The result is an enviable record of achievement.

Look also at the blueberry growers with their common grading and marketing standards. The peach men, in the National Peach Council, are making headway. And now the apple men are moving still further together nationally.

This spirit of willing and planned co-operation between groups that were once thought to be at each others' throats, is a major trend of importance. And it lines up with the biological law that has stood the test of ages and pronounces that the fittest to survive are those who can get along together and can work together—the survival of the co-operators.

### A Gain and a Loss

FRUIT GROWERS in the state of Washington and the Northwest lost a great leader in the recent death of Rufus Woods, publisher of *The Wenatchee Daily World*. More than anyone else, he was responsible for the building of the Grand Coulee Dam and the development of the Columbia River Basin. These have meant power and water for Washington's giant orchard industry.

Reclamation was a hobby of Rufus Woods; but he also found time to help Washington state fruit growers in their battle for lower freight rates because he realized that they must have an equitable rate to ship their fruit to eastern markets.

Seldom does nature produce a man who combines an extraordinary vision with an indefatigable perseverance and bubbling energy, and it is fortunate for the Northwest that Rufus Woods chose to live there. Columbia River will continue to serve Washington state fruit growers as a result of the work of Rufus Woods.

### Fruit Production at a Glance

	1939-48	1949	USDA July 1, Est. 1950
	Thousand Bushels		
Apples	88,407	133,742	119,180
Eastern	36,406	56,374	55,565
Central	13,444	28,374	17,248
Western	38,557	48,994	46,367
Peaches	70,090	74,618	55,512
Cling., (Calif.)	18,151	24,085	22,918
Free., (Calif.)	11,009	11,126	9,501
Pears	30,295	36,404	28,488
	Tons		
Grapes	3,078,400	2,662,100	2,748,100
Cherries	179,240	250,230	225,430
Sweet	85,956	137,700	80,140
Sour	93,284	112,530	145,190
Apricots	233,510	197,600	202,800
Plums (fresh)	76,300	90,000	86,400
Prunes (dry) Calif.	190,600	152,000	156,000



### The World View of Apples and Pears

AS HUMAN BEINGS, we are inclined to view a particular problem with respect to our local setting. Thus, in 1949, when the apple crop loomed large in Michigan, in New York State, and in other areas, there was a tendency in each area to think that it had a problem peculiar to itself. Now, however, as the figures come in, it is seen that the situation that faced apple and pear growers in 1949 was worldwide.

The world production of apples in 1949 is now estimated at 531 million bushels, which is 26 per cent above the 420 million bushels produced in 1948. Pear production, which is now estimated at 163 million bushels, is 42 per cent above the 1948 crop. Of course, the United States crop helped materially with 133 million bushels of apples or an increase of 51 per cent over the 1948 production, and 36 million bushels of pears or 39 per cent above the 1948 crop. Nevertheless, the Canadian apple crop of 17 million bushels added four million bushels more than in 1948, and the European crop, including apples for cider, was 330 million bushels or 22 per cent above the 1948 crop. Total European pear production was 108 million bushels or 54 per cent above the 1948 crop.

It may not be realized by some just how the production of apples and pears is increasing in foreign countries. For example, in 1949, France produced 130 million bushels of apples, which is quite similar to the amount produced by the United States. To be sure, 113 million bushels of these were for cider. The crop in Belgium was a record 18 million bushels. In Germany, the production was 34 million bushels, and Italy has reached the surprising figure of 31 million bushels. The United Kingdom has attained a total of 26 million bushels, with 22 million of this total being for dessert and cooking use.

As for pears, France now produces almost 24 million bushels, of which 17 million are used for cider. Belgium produces 11 million bushels, Germany nearly 15 million, Italy nearly 15 million, and Switzerland nine million.

It becomes more and more apparent that the factors involved in price and movement in this day and age are not the result of a few general or local situations. Instead, the picture is confused with hundreds of tiny features. All of which means that fruit growers must ever widen their horizons and even look at things from the world point of view. It is no longer sufficient to live unto ourselves alone.

AMERICAN FRUIT GROWER



**It's the  
use of the clubs  
that's important**

**H**aving a complete set of clubs is one thing. Knowing when and how to use them to best advantage is another. And that goes for railroading.

Union Pacific has the "clubs"; equipment, facilities and manpower. It also has the "know how" essential for the efficient handling of freight shipments.

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# ARE YOU GETTING YOUR SHARE OF THESE Bigger Apple Profits?

**Growers of STARK GOLDEN DELICIOUS, red STARKING DELICIOUS Apples, and OTHER Stark Fruits report MORE bushels-per-tree. MORE dollars-per-bushel—often as much as 50% more! How much would you like to increase YOUR fruit profits?**

WOULD you like to net at least \$100 or \$200 MORE per acre than you are now getting from your ordinary apple trees? Would you like to have trees that bear years YOUNGER, bear HEAVIER, and bear big crisp beauties that command TOP PRICES on today's market? Would you like to discover how the BIG money is being made today not only in apples, but also in peaches, plums, pears, cherries, apricots, grapes, berries?

Then you owe it to yourself to join the

fruit growers who are enjoying year-after-year of steady prosperity with their STARK Fruit Trees... such as STARK GOLDEN DELICIOUS and red STARKING DELICIOUS Apple trees!

STARK GOLDEN DELICIOUS is 50% larger than many other yellow apples, and has already been picked from 2-year trees in 16 states. STARKING DELICIOUS is a 100%-red apple that reddens all over several weeks earlier than Delicious, while still hard-ripe. Both apples keep all winter, and are of such unusual size and flavor that they command top market prices year after year.

## What Growers Say about These Great Apples

"I have a Stark Golden Delicious tree 2 years old that has 40 or 50 apples on it!" — William Robinson, Washington.

"In spite of the coldest, most prolonged cold winter on record in our section in spite of late spring frosts, causing other varieties in our orchard to fail—in spite of the hottest summer with the most severe and longest drought in the memory of our oldest inhabitant, Stark Golden Delicious came through and produced a bumper crop of big, smooth, beautiful apples which we sold for \$6.00 right in our orchards." — Rising Springs Orchard, Ill.

"My 500 Stark Golden Delicious 10 years old will harvest 12,000 bushels. I market them at 50¢ to 100¢ more than others." — E. F. Burgeim, Okla.

"We had four successive frosts while Stark Golden Delicious were

1949 U. S. Dept. of Agriculture Report for Chicago Market (May 11) lists Starking Delicious, Extra Fancy, at \$7.00 per bushel box—MORE than any other variety listed!

blooming. Some clusters were so frozen that the spur died back to the limb, yet they produced a crop!" — W. O. Smith, Kentucky.

"I got 50% higher prices for my Starking Delicious apples than for Delicious. All my customers think the flavor and color simply wonderful." — Philip Weisbrud, Iowa.

"My Starking Red Delicious and Stark Golden Delicious trees are loaded! Some Starking trees average 13 to 14 bushels and they are heavier. I picked Starking that graded 64 to the bushel and even now (Sept.) they are bright red all over. That's the advantage Starking has over old Delicious—colors early and gets the high prices for the first Red Delicious on the market. The all-over-red Starking color makes them bring 15% to 40% more than Delicious year after year." — Frank Penstone, Ill.



America's "Wizard of Horticulture" asked that Stark Bro's carry on his great work and introduce his new fruit creation.

## Why STARK Apples, Pears, Plums, Cherries, Peaches, Berries, Are More Profitable

Everything the Stark family has learned in its 114 years of producing MORE SUCCESSFUL nursery stock goes into each tree we sell:

1. Each Stark fruit tree is a Record-Bearing strain propagated direct-in-line from a champion "parent" tree that has established an UNBEATEN RECORD for heavier bearing, or younger bearing, or larger-sized fruit, or better colored fruit, or a combination of these superior traits.

(above) STARK GOLDEN DELICIOUS and STARKING DELICIOUS Apples like these— and Stark peaches, apricots, pears, plums, cherries, grapes, berries— command top prices on the nation's markets.

U.S. DEPT. OF AGRIC. -- CHICAGO MARKET -- MAY 11  
APPLIED: STARKING DELICIOUS EX. FANCY  
80...150s \$7.00 PER BU. B33.

2. Our famous trademarked "OLD OAK 'PROCESS'" method of grafting onto a special whole root instead of a piece-root gives your new Stark trees a big "head start"—makes them stronger, younger-bearing, longer-living.

3. As the largest nursery in the world, we can spend a fortune in research for you. We have huge Test Orchards where 1000 new fruit varieties are studied—where a new variety must come through with "flying colors" before it is offered to YOU.

4. We are exclusive propagators and distributors of LUTHER BURBANK'S new and patented fruit creations.

## Mail Coupon for Brand-New Big FREE Catalog

If you want to find out more about the EXTRA-PROFIT POSSIBILITIES—not only of Stark's apples, but also of our improved peaches, pears, plums, cherries, berries, and grapes—mail coupon below for our brand-new FREE catalog. This big book (over 1 foot long) shows glorious natural color photos of all our money-making fruit varieties—and our beautiful shade trees, shrubs, and roses too. ALL SO FREE, if you mail coupon at once: our valuable Home Landscaping Book, showing how to add outdoor beauty and increased sales value to your home. Mail coupon NOW!

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Largest in World... Oldest in America  
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## "I Sold \$1562 Worth of Trees in One Month, Spare Time"—AL. HELLRUNG



AL. HELLRUNG makes new friends and extra money the whole year round—in pleasant, easy, healthful outdoor work—introducing Stark Fruit Trees (and Ornamental Trees, Shrubs, and Roses) to folks in his own locality.

Wouldn't YOU like to add to your weekly income the same way? Easy work—evenings, Saturdays, any time. No experience necessary to start—Charley Drake of Georgia earned \$81.56 in his first week.

IF YOU WANT TO MAKE SPARE-TIME MONEY, CHECK COUPON HERE

Introducing Stark's exclusive varieties (not available anywhere else) is like being on a "second payroll." You get your prompt Stark check this week for last week's business. Folks welcome you—they've usually seen full-page Stark advertisements in national magazines and the gorgeous color Stark Fruit Tree Book. They've heard of famous Stark Bro's, World's Largest Nursery, founded 114 years ago. You don't invest a penny—work on our capital. We give you Display Outfit FREE with suggestions on whom to see, what to say. FREE BOOK shows how even beginners can get nice pay checks one week after first orders. JUST CHECK BOX at bottom of coupon.

## MAIL COUPON FOR BRAND-NEW FREE STARK CATALOG



Shows our 302 varieties of fruit, shade trees, shrubs, roses—in glorious full color!

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- ☐ Please send me, FREE, your big brand-new STARK CATALOG, showing in gorgeous natural color your 302 varieties of fruit, berries, shade trees, shrubs, and roses.
- ☐ Check here if you want to know how to save money on 10 or more trees, shrubs, or roses.
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